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VOLUME XXXIX

JULY-OCTOBER 1959

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The Antiquaries Journal

VOLUME XXXIX

JULY-OCTOBER 1959

NUMBERS 3, 4

ANNIVERSARY ADDRESS

By SIR MORTIMER WHEELER, *President*

[Delivered 23 April 1959]

IN these days it is the habit of Prime Ministers and Presidents to lie abroad for the good of their country, and I can only hope that your own President's unconscionable absences during the past year may shelter under that umbrella. In Southern Rhodesia, at Zimbabwe, he looked upon the rugged best that trans-Saharan Africa can produce and was shown incidentally, with a proper reverence, the crumbling cavity where one of our Vice-Presidents 'directed her first solo-excavation'. In Pakistan he was invited by the Government to conduct an expedition in the North-West Frontier, and has pleasure in recalling the open-handed collaboration, not only of the Pakistan Department of Archaeology, but also of the highly efficient Pakistan Air Force. In India he saw his old colleagues and pupils at work on a scale unapproached by any other country in the world at the present time, unless it be rivalled by the hidden prowess of the U.S.S.R. Only the untidy seas of the African coast barred him at the last stage from Cyrene, where he would have found our Fellow Mr. Richard Goodchild still the accepted master of free Cyrenaica's archaeological enterprises, a position which reflects alike his knowledge and his understanding. And in all these far-flung missions your President was conscious, and many of his hosts were conscious, that he bore with him the hallowed lamp of Burlington House. It is not a bad thing that a Society so universal in its concern, whether in time or space, as ours traditionally is should do a little travelling in an age when the poet can no longer complain that there ain' no 'buses runnin' from the Bank to Mandalay. To our wider work and opportunity *in partibus* I shall turn again in a few minutes.

But first a word on more domestic matters. Amongst these priority attends one which bears immediately upon our efficacy as a Society to carry out our legally 'charitable' function, and, not less, upon the similar efficacy of other learned societies for whom we may properly be expected to act, in some measure, *in loco parentis*. I refer to the refund of income tax on seven-year covenants, which have in the past brought to our exchequer more than £2,000 a year and, in the delicate economic balance of the age, have been a very material factor in our well-being. At this late date I need scarcely remind you of the action of the Board of Inland Revenue in withholding, in 1957, a refund which had for more than a dozen years been conceded. In January of the present year we petitioned the Appeal Commissioners

for the Special Purposes of the Income Tax Acts, and won our case: the judgement of the Commissioners being that 'the appeal succeeds and we hold the appellant society entitled to the relief claimed'. There, until yesterday, the battle remained in abeyance, with the prospect of renewal in the courts and even, ultimately, in the House of Lords. It was hoped, however, that the verdict of the Appeal Commissioners, who were themselves lawyers and heard the case argued very efficiently on both sides by Counsel, might be accepted by the Board of Inland Revenue without such extravagantly wasteful recourse to further legal proceedings.

Yesterday morning we received the following letter from the office of the Solicitor of Inland Revenue, Somerset House:

Dear Sir,

I am instructed by the Board of Inland Revenue to inform you that they do not intend to contest the decision of the Special Commissioners allowing the Society of Antiquaries' claim to exemption from Income Tax under Section 447 (1) (b) of the Income Tax Act, 1952 in respect of covenanted subscriptions.

Yours faithfully,

A. FRASER

No President in his last moments could wish for the gift of a more congenial valediction. I offer it to you with no higher sense of personal merit than that of persistency. But there are others to whom our Society is profoundly and enduringly indebted, and it is my principal function today to express to them something of our indebtedness—I would like to use the phrase 'affectionate indebtedness'. In all the long-drawn-out and tedious business of this Appeal, our protagonist has been our Fellow Lord Nathan. We know Lord Nathan in many capacities, though only a few of us are aware of the many secret ways in which he has been our perspicacious benefactor. Now, as our Honorary Legal Adviser, he has for many months in this affair with Somerset House placed unreservedly at our disposal the full weight of his interest, his experience, and his staff. Our gratitude is beyond expression, and he would indeed wish our reticence. We may be content, as he will be content, that we plainly thank him. And with his name I would associate that of his son, Mr. Roger Nathan, who, for days on end, gave unremitting thought to our case, at what cost to other commitments I hesitate to guess. Nor is that the full tale of our debt. Lord Nathan secured for us, not merely the services but the freely-given partnership of Mr. F. N. Bucher, Q.C., who, supported by Mr. H. H. Monroe, presented our plea to the Commissioners with a skill and assiduity that at least pointed the merit of a good case. Finally, I cannot forget that our chief witness was our Assistant Secretary. Dr. Corder's blunt evidence proved again that 'corruption wins not more than honesty'; whilst our accessory witness, Sir Gerard Clauson, chosen by request as a 'typical Fellow', served our cause to admiration by being refreshingly and even disconcertingly atypical. In one way and another the four days occupied by the joint hearing of our appeal along with two others lacked neither instruction nor entertainment. But they were a prodigious waste of time and we deserved, I think, the consolation of the final judgement.

From the dusty avarice of income tax I turn to more illuminating and generous

topics. Even so we must begin by admitting that, at home, long-term research has been regrettably impeded by *ad hoc* salvage work. Not that the excavation of threatened areas in such outstanding Romano-British cities as Verulamium and Cirencester is itself a subject for regret. Verulamium, along the line of an extended highway, has yielded to the shrewd ministrations of Mr. Sheppard Frere a mass of valuable evidence, and no doubt a building-site at Cirencester, in the experienced hands of Miss K. M. Richardson, will do the same. But the thought remains that the accidents of modern development and not the rational controls of purely archaeological planning are at present the immediate occasion of our two principal enterprises in the field. Once again those visionary policies which wise committees have urged upon us recurrently during the past thirty years have been jettisoned. And though I am anything but a defeatist, the time has come, I am afraid, when we must reconcile ourselves to this sort of frustration. In our crowded island, with incessantly spreading suburbs, satellites, and workshops, it may be doubted whether we shall ever again be free from external compulsion in the choice of our leading projects in the field. Every year our Ministry of Works, with slight accessory aid, is compelled to concern itself with the urgencies—fifty or more of them—of extreme unction or post mortem. And we as a Society cannot be indifferent to this unremitting state of emergency. In it are involved, whether we like it or not, a major part alike of our available funds and of our practised personnel. Only perhaps in occasional small-scale investigation can we hope to sustain something like a complete freedom of action; and do not let us, incidentally, underrate the potential value of carefully selective small-scale work.

From these restrictive conditions at home it is pleasant to survey the more spacious prospect overseas. I sometimes wonder whether, in our natural preoccupation with our back-gardens, we are sufficiently conscious of the outstanding contributions made every year by British archaeologists abroad. There our Schools and Institutes are, or should be, a source of national satisfaction. From the Valle Giulia at Rome Mr. Ward Perkins during the past few years has tackled the reticent Etruscans of Veii; has collected the extensive and sometimes peculiar churches and monasteries of Libya; has delved into the massive basements of Justinian's palace at Istanbul; and has recorded in discerning detail some of the remarkable architecture and sculpture of the great African cities of Sabratha and Lepcis Magna, birthplace of a Roman emperor who died at York. In Crete Mr. Sinclair Hood, Director of the British School at Athens, has continued the excavation of the Palace of Knossos and the adjacent town. In Turkey Mr. Seton Lloyd, Director of the British Institute at Ankara, has with an able band of colleagues concluded the excavation of the now classic site of Beycesultan and, along with the parallel excavation of Hacilar, has thereby completed a prehistoric sequence for south-west Anatolia. At Hacilar itself he has found a chalcolithic fortress which is the earliest example of defensive construction yet identified in Anatolia or the Aegean. From Egypt Professor Emery, on behalf of the Egyptian Exploration Society, has found it advantageous to cross the border for the time being into the Sudan, but, as compensation for the loss of his Sakkara tombs, has found there, opposite Wadi Halfa, a Middle Kingdom fortress in a dramatic state

of preservation. Our Vice-President Miss Kenyon's work at Jericho, on behalf of the British School in Jerusalem, in important respects the outstanding excavation of the post-war years, needs no advertisement from me. Suffice it to say that she has now firmly linked up Jericho with Dr. Dorothy Garrod's famous microlithic Natufian culture of Mount Carmel, and that her results include a new light on the beginnings of food-production and town-life, twin achievements which may, I suppose, be claimed as the zenith of human achievement up to date. And, not least, I would refer in some special sense to the services of Professor Max Mallowan as Director of the British School of Archaeology in 'Iraq. There for many years, abetted by his wife, he has continued the age-long excavation of Nimrud and has found, amongst much else, a collection of ivories unapproached in quantity and unsurpassed in quality; indeed, these ivories in many respects compel a reassessment of Assyrian art. But that is by no means all. It is not hidden from us that in recent months 'Iraq has been a troubled land. In the darkness of the present and the uncertainty of the future much is at stake besides archaeology and cultural relations; but I am of those—and so, what is more important, is Professor Mallowan—who rate very highly indeed the positive and fructuous value of cultural relations amidst the perilous vicissitudes of international misunderstanding. Accordingly, while revolution was in full blast in Baghdad and Mosul, the two Mallowans suddenly dropped from the skies upon the Baghdad airport with invalid visas. Surprised and shocked, the airport yielded to the assault; but subsequently legitimate visas for the Mallowans, their staff, and their students were only obtained, after blank refusal, by fearless and skilful intervention with one of the new Cabinet Ministers. Not content with that, Professor Mallowan proceeded, with the goodwill of his hosts, actually to take over the 'Iraq Antiquities Department, seized a studio, and entered once more upon the routine of his photographic recording! In short for the time being the British School in Baghdad is saved and, within a restricted scope, at work again. I doubt whether, in the arduous circumstances, anyone other than the Mallowans could have remained out of jail long enough to achieve so miraculous and resounding a success. And we can only hope that literature, no less than archaeology, will in due course be enriched by the episode.

All this adds up to an impressive record, but is not yet the full total. Year after year our Fellow Mrs. Olwen Brogan braves the rigours—and they are not inconsiderable—of the Tripolitanian desert in search of the strange Roman or sub-Roman monuments of those parts; and it would not surprise me to hear in the near future of even more ambitious deviations from the trodden path. In northern 'Iraq, Mr. David Oates, working under the terms of the British Academy's Stein-Arnold bequest, has been reviewing with skill and revolutionary success some part of the terrain traversed by the redoubtable Sir Aurel Stein during his last field-expedition in search of the Roman frontier-system there. In southern Anatolia at Harran under many difficulties of climate, politics, and finance, Dr. David Storm Rice has prepared superb records of an early Muslim mosque and palace which he has been exploring. And I may be permitted again to add that the collaboration of two enterprising young Cambridge archaeologists, Mr. David Stronach and Dr. Roy Hodson, enabled your President to enjoy the mild excitements of the

North-West Frontier in the investigation of that famous Frontier's largest site, the Pushkalavati or 'Lotus City' which on one occasion resisted the experienced troops of Alexander the Great for thirty days. I know not what moral is to be drawn from the fact that it resisted us for no less than forty-nine.

No doubt there are others whose names should swell my list. But here I am concerned less with individuals than with institutions. Of the six that I have mentioned—those at Rome, Athens, Ankara, Baghdad, Jerusalem, and in Egypt—only one is a post-war establishment. The time has now arrived to increase their number. Vital regions such as trans-Saharan Africa, Iran, the Indo-Pakistan subcontinent and Ceylon, the Far East are at present unprovided with these ambassadorial instruments of research. I call them 'ambassadorial' because, in a world riven by nationalist partisanship, they are untainted with politics and constitute, as I have already suggested, a humane link of the best possible kind between nations. Such is the experience of our Schools; and the French, too, have long found their archaeological missions in Iran and Afghanistan the basis of a profound mutual understanding. The strength of these missions, as of our Schools, lies in their utterly non-political character, but that does not make their political or ambassadorial impact any the less actual and important. I am emboldened to say quite straightly that on political as well as on academic grounds their multiplication is an urgent need.

Nor is that need confined to those countries which are filed away in our Foreign Office. After all, the British Commonwealth is a federation of politically 'foreign' units, and our colonial territories are all on the way to Commonwealth or alien status. Many of these units are shamefully unexplored archaeologically, and even their histories are often of the sketchiest. (For example, Who is the Negro? We simply don't know.) Now, not in the uncertain future, is the moment for consolidating our cultural links with these transitional polities, not merely by universities and colleges which, as we have seen recently in South Africa, are always liable to vagaries of government control but, above all, by research institutions which stand aside from the main streams of territorial education and have something of a diplomatic isolation and prestige. Let us, as a high priority, have Schools and Institutes, not only in traditional centres such as Greece and Rome, but also within the Commonwealth, present or to be.

And in this context I have news for you which you will, I hope, receive with a measure of gratification. After three years of negotiation the Treasury through Parliament has just agreed to the establishment of a British School of History and Archaeology in East Africa, to be financed in part from non-government sources but with a substantial Treasury subsidy. In other words it will rank with our existing Schools in Rome and elsewhere and will fulfil an equivalent function. But in its setting there is much that is new and adventurous about this project. It is designed to attract British research systematically to the study of the cultural background and 'make-up' of Kenya, Uganda, Tanganyika, British Somaliland, and Zanzibar, and has the preliminary blessing of all the governments concerned; Tanganyika has indeed made a provisional offer of substantial premises at the old coastal capital of Bagamoyo, north of Dar-es-Salaam. It will work in liaison with

the only university college at present operating in that vast region—the college at Makerere in Uganda—but will be an independent institution, with its own studentships and publications. And it is to be hoped that incidentally it will serve as a new focus for African, no less than for British, interest in the complex and, at present, nebulous past of the western shores of the Indian Ocean and of their hinterland as far as the great lakes. I would record here that in its inception the new School owed much to the personal intervention of the Colonial Secretary, Mr. Lennox-Boyd, and, above all, to the constant encouragement of our Fellow Sir Eldred Hitchcock, whose sudden and untimely death on 6 April is a tragic blow alike to his many friends and to the early fruition of the project which was so near his heart.

In certain parts and on certain problems of this territory a small band of British scholars has already carried out pioneer work of high distinction. From the Coryndon Museum at Nairobi Dr. Leakey and his wife, with colleagues amongst whom it is not invidious to mention *in primis* Mrs. Sonia Cole, have made the earlier prehistory of East Africa an essential link in the earlier prehistory of mankind. Also in Kenya, our Fellow Mr. James Kirkman has demonstrated the potential value of the detailed study of a much later age—of the medieval and later Muslim settlements of the coastlands. And I would take this opportunity of congratulating Mr. Kirkman in your name upon the recent development of coastal archaeology represented by his capture of Fort Jesus, that imposing monument of Portuguese rule at Mombasa which, when I visited it three years ago, was still a teeming jail. Now, with the aid of the Kenya Government and, not least, of the Gulbenkian Foundation, this picturesque pile is to become a headquarters of the coastal administration of that enlightened body, the Royal National Parks Commission of Kenya. We wish Mr. Kirkman, as an officer of that Commission, the success which he deserves and will doubtless achieve in this new enterprise.

Elsewhere up and down the coast spare-time work of value has been undertaken by Mr. Gervase Mathew and Dr. G. Freeman-Grenville in the form of pioneer ground-surveys and a fresh recension of the numismatic evidence, in which our Fellow Dr. John Walker had already led the way. A primary task confronting the application of these studies is the systematic stratigraphical analysis, in relation to the coin-evidence, of the Chinese trade-porcelain which litters the African coast and is at present very inadequately understood. Here is an archaeological instrument of the highest potential value, not merely to the coastal archaeologist, but also far into the interior whither Chinese wares penetrated up the trade-routes and perhaps by more devious and casual interchange. And incidentally these trade-routes are themselves an inviting subject for further study, with full cognizance of those melancholy highways down which the slave-gangs were until recently driven from the lakes to the coast, thus projecting, it may be supposed, ancient lines of traffic into modern times.

The interior, too, has its abundant problems parallel to and occasionally interlocked with those of the coast. It is to be hoped that the dichotomy of interest which tends sometimes to split the study of the cosmopolitan coastlands from

that of the only less cosmopolitan interior will not be perpetuated in the policy of the new School. Up-country, the rock-paintings which have been studied by Dr. Leakey, Mr. H. A. Fosbrooke, Mr. R. R. Inskip, Mr. N. Chittick, and others, or the Iron Age settlements and earthworks which have been investigated by Mr. E. C. Lanning, Mr. Peter Shinnie, and Dr. M. Posnansky, are an integral part of the East African story and of the racial problems which lie behind it. Given an adequate supply of studentships, the new School has a varied and fascinating future in front of it.

I have dwelt at some length upon East Africa because the new and long overdue development there is the most important administrative innovation of the past year within our field of interest. But let me emphasize again that I regard this merely as an instalment, and that I am by no means alone in this view. It is revealing no secret to tell you that a committee has just been set up by the Universities of Oxford, Cambridge, and London, in consultation with the British Academy, to consider the establishment of a British Institute in the Far East. Such an Institute would transcend but certainly include the study of Far Eastern Archaeology, and is the proper sequel to the expansion of Oriental studies that followed the Scarbrough Report of 1947. Peking was the intended location of this Institute; in present conditions Tokyo may be the inevitable alternative, but that is for careful consideration. The scheme is at present in its initial stages, though the manifest need—on many grounds—for such an institution is a good augury for its acceptance.

In this my final Address to you we have travelled far afield. I make no apology for this excursion by and for the one British society of its kind which, by use and policy, retains a world-wide outlook without losing the precision of its purpose in vague or vagrant generality. Today this world outlook is more apt and necessary than ever before. It is rendered more exact and comprehensive by new skills (such as Carbon 14) and by vastly accelerated means of intercommunication. The enlargement of regional or departmental interests, illustrated, for example, by the welcome multiplication of specialized archaeological and historical societies, or by the Schools of which I have spoken, commands the equivalent enlargement of that over-all vision which remains our Society's special function and privilege. I end my tenure of office as your President upon this catholic and international note, not because it is new to you, but because it has about it something of a new urgency in a world of increasing political and academic restriction.

Before I fade, however, into the shadows wherein ex-presidents flit furtively as fading memories

per iter tenebricosum
Illuc, unde negat redire quenquam,

it is my proper task to welcome in your name my successor to the high chair. Dr. Joan Evans comes of a line which has almost a prescriptive family right to that chair. Her eminent father graced it seventy-four years ago, and her no less eminent brother delivered quiet judgement from it during the difficult and sometimes embarrassing period of the First World War. We wish her a happy tenure in a great tradition.

CHIAN AND EARLY IONIC ARCHITECTURE

By JOHN BOARDMAN, F.S.A.

INTRODUCTION

IN the first part of this article are listed the architectural fragments found at or near the site of the temple of Apollo Phanaïos in South Chios, including several hitherto unpublished mouldings.¹ The discussion of them is prompted by the excavations conducted by the British School at Athens from 1952 to 1955 at Emporio, some 8 km. from Phanai, and the discovery there of parts of more than one early Ionic building.² The similarity of the Emporio mouldings to those from Phanai led to a study of the latter. They have so far been neglected by most writers, but since they afford evidence of some important local fashions it seems of value to record them fully, both for their own sakes and for the light they throw on the Emporio buildings. The full publication of these must await that of the rest of the site. To the Phanai pieces are added a number of other early mouldings from Chios, other than those found at Emporio.

In the second part some of the peculiarly Chian features of the architecture discovered in the island are discussed: notably a group of elaborate mouldings with carved decoration, including some from Emporio; and the use of the lion's paw as an architectural motif. From this study there emerges a distinct Chian school, largely dependent on the senior schools of Samos and Ephesos, but developing independently of them a number of individual architectural features.

The attempt to date the Chian mouldings and to define their place in the general development of Ionic architecture leads to the third part, in which the dating evidence for early Ionic buildings and members on various sites is analysed. The architecture of this period is still but little understood, and dates for archaic buildings, even the best known, are often accepted and repeated with uncritical complacency. A thorough archaeological, rather than purely architectural, analysis of the available material is required before the chronology and stylistic development

¹ Many points dealt with in this article were discussed in a lecture delivered to the Society of Antiquaries on 1st Nov. 1956. I am indebted to Miss W. Lamb for lending me notes and drawings of her excavation at Phanai, and Prof. N. Kontoleon for permission to publish some pieces in Chios Museum. I refer to the following works by their authors' names alone: W. Lamb, 'Excavations at Kato Phana in Chios', in *B.S.A.* xxxv (1934-5), 138-64; C. Weickert, *Typen der archaischen Architektur* (1929); L. T. Shoe, *Profiles of Greek Mouldings* (1936); W. B. Dinsmoor, *The Architecture of Ancient Greece* (1950); I. Kleemann, *Der Satrapen-Sarkophag aus Sidon* (1958). The following abbreviations are used for periodicals:

A.A., *Archäologischer Anzeiger*, in *J.d.I.*; *A.Delt.*, *Ἀρχαιολογικὸν Δελτίον*; *A.E.*, *Ἐφημερίς Ἀρχαιολογική*; *A.J.A.*, *American Journal of Archaeology*; *A.M.*, *Athenische Mitteilungen*; *Ann.*, *Annuario della Scuola Italiana di Atene*; *B.C.H.*, *Bulletin de Correspondance Hellénique*; *B.S.A.*, *Annual of the British School at Athens*; *J.d.I.*, *Jahrbuch des Deutschen Archäologischen Instituts*; *J.H.S.*, *Journal of Hellenic Studies*; *M.d.A.I.*, *Mitteilungen des Deutschen Archäologischen Instituts*; *O.Jh.*, *Jahreshefte des Oesterreichischen Arch. Inst.*; *P.A.E.*, *Πρακτικὰ τῆς Ἀρχαιολογικῆς Ἑταιρείας*; *R.M.*, *Römische Mitteilungen*.

² See *J.H.S.* lxxv (1955), Suppl. 21 f.; lxxvi (1956), Suppl. 35-38.

of Ionic architectural decoration in different parts of Greece can be established. In these notes I can offer no solutions; only point to some anomalies or contradictions, as well as to a few fixed points.

Finally a brief appreciation is made of the ways in which Ionic architects borrowed and adapted Near Eastern architectural and decorative motifs, and of the later and reciprocal effect of Greek, Ionic architecture in the East.

I. THE ARCHITECTURE OF PHANAI

Our knowledge of the architectural members of the buildings which stood at Phanai is derived from two sources: first from excavations there, and secondly from those blocks which have been removed from the site since antiquity and built into churches or other buildings near by.

Excavations were conducted on the temple site by Kourouniotes in 1913-15 and a number of the mouldings found were illustrated and described briefly by him in *A. Delt.* i (1915) and ii (1916);¹ others from the same excavations were published by Miss L. T. Shoe in her *Greek Mouldings* (1936). At the same time Miss W. Lamb published in *B.S.A.* xxxv (1934-5) the results of her excavations for the British School at Athens on the same site, which brought to light the earliest mouldings.

For the blocks which have wandered from the site since antiquity and are to be found in medieval or modern buildings the question of identification is more difficult. A persistent report has it that blocks were taken to the island of Psara (Homeric *Psyrie*) but none has been published or described.² Some mouldings which were built into the churches of a now-deserted village (Managros) up the valley from Phanai have been published by Kourouniotes and Shoe and are generally considered to be from temples in the vicinity. As there is apparently no classical site near by³ and as the only blocks are elaborately carved ones suitable for the adornment of a church door or window, it seems reasonable to suppose that they are from Phanai. A moulding in Chios Museum which is almost certainly from Managros (below, no. 34) exactly matches one found at Phanai. In the church of A. Stephanos in Pyrgi at the head of the valley is a moulding matching one of those from Managros, and presumably then from the same source. But above it is one matching another from the excavations at Emporio, and which can have come only from there. The area of Pyrgi must therefore be considered neutral ground to which mouldings from either Phanai or Emporio may have travelled, and identification can rest only on exact matching with excavated examples. The distance that blocks from Phanai might travel is well illustrated by the inscription once seen there and rediscovered in Kalamoti, 10 km. away and beyond Pyrgi, more than a century later.⁴

¹ On p. 192 he describes a cache of mouldings he found by the north-east corner of the Basilica Church, including the capital, our no. 29.

² Cf. G. Zolotas, *Ἱστορία τῆς Χίου*, A. 1, 282.

³ No relevant site; there is an Early Bronze Age site at Kastri, immediately to the east, and a farmhouse site occupied in the Classical and

Late Roman periods beyond A. Ermione to the west.

⁴ B. Haussollier, *B.C.H.* iii (1879), 325 n. 1, and cf. 323. Another has travelled from Pyrgi to Latomi, some 20 km.; *Ἀθηνᾶ* xx (1908), 272, 511; Zolotas, *op. cit.* 376.

Kourouniotes says of a part of the site at Phanai where column drums were uncovered that the spot had been regularly robbed for stone for churches of nearby villages, and inscriptions also removed. He also remarks that the owner of property at A. Marina, near Managros and a rich source of mouldings, had found an inscription with *κόσμημα* and sold it to foreigners. It seems likely that all the elaborate mouldings which escaped the lime-kilns or survived the construction of the Early Christian Basilica Church at Phanai were removed for use as decoration elsewhere. The mouldings found by the excavators were not so readily accessible; many of them had been broken and buried in antiquity.

The general outlines of the history and topography of the temple site are clear from the excavators' reports. The foundations of what appears to have been the main building, the temple of Apollo Phanaïos, were partially cleared, but neither main dimension could be determined as the substantial foundations of the Basilica Church as well as a small modern chapel cover the remains. As the foundations are exposed at present there are courses of well-finished pale limestone blocks both above and beneath a course of both rougher and darker limestone blocks. The lowest course might belong to an earlier structure, and if so the build-up for the foundations of the later temple is very like that found at Emporio where there is a sandwich filling of coarser and reused blocks between the old and new foundations. Some loose blocks near the Phanai foundations have swallow-tail clamp-holes with pegs and may be from the upper foundation course. Kourouniotes observed that blocks from some earlier building seem to have been used in the foundations.

None of the blocks which would have been visible in antiquity has been found *in situ* and the descriptions and allusions to the temple by early travellers, and by Fustel de Coulanges a hundred years ago, clearly refer to the ruined Basilica Church which was largely built from the ashlar blocks of the Greek temple.¹

The temple stood on a platform supported by terrace walls facing the harbour, whose waters have clearly receded considerably since antiquity. The earliest wall which might be of a terrace for the sanctuary platform was dated to the Geometric period.² It was followed, probably at about 600 B.C., by a fine curved terrace wall constructed in good rubble, patched at one point by ashlar blocks. The final stage involved the building of another terrace wall outside the last and apparently replacing it. This was constructed of ashlar blocks, some with pronounced drafted margins. The dating of this wall is of considerable importance. Miss Lamb suggested a date about 500 B.C. because none of the pottery in the fill behind it was later than the second half of the sixth century. The date was supported by the unnecessary supposition that the terrace should postdate the marble mouldings found on the site, which were taken to be of the end of the sixth century. Of the pottery found at Phanai and published or kept in Chios Museum there is nothing of the very end of the sixth century, and the latest datable piece published by Miss Lamb need not be earlier than about 540 B.C. (her pl. 37, 33). From the pottery the terrace wall

¹ *Archives des Missions Scientifiques et Littéraires*, (1856), 491 (he mentions columns sold to the English and Psariots), 506. For some earlier travellers' descriptions see P. P. Argenti and S. P.

Kyriakides, 'Η Χίος παρὰ τοῖς Γεωγράφοις καὶ Περιηγηταῖς, pp. 679 (Pococke), 847 (Olivier).

² For this see the plan in Lamb, pl. 27; and cf. F. Matz, *A.E.* 1953-4 (2), 99.

might then be a little earlier than 500 B.C. Also within the fill of the terrace wall was a mass of red limestone chips and fragments of column bases, taken by the excavators to be debris from a temple. The fact that there were no marble chips, which is carefully recorded by the excavator, seems to militate against the view that the main marble temple was built *before* the terrace. It would seem reasonable also on general grounds to expect that in a reconstruction of the sanctuary the new terrace and platform would be built before the new temple which they were to support.

The construction of the last terrace therefore represents an important fixed point in the architectural history of the site, as it effectively postdates the temple with the red limestone mouldings and antedates that in which marble was largely employed. This of course does not mean that all the marble mouldings must be later than it, for they could belong to buildings mainly constructed of other material and need not have been worked on the spot like the wall blocks. These marble mouldings present a number of problems. Most are of white marble, in contrast with the Chian blue-grey marble employed for the walls of the main marble temple, and they appear to range in date from the late sixth century into the fifth. Whether some of them can in fact be attributed to the period of the earlier red limestone mouldings, and whether there were one or more buildings or building-periods postdating the last terrace, are questions to be debated but not easily or finally answered at present. A summary of the main groups of mouldings to be associated with the Phanai temples may help to clarify the picture. A disadvantage is that so many of the important pieces have not been completely published and have appeared, some only in photographs, others without significant dimensions. Again, very many of the pieces are no longer accessible. Some were taken to Chios Museum and can be seen there, and the others built into churches remain in place. To these I have been able to add some hitherto unnoticed. Of those left on the site only a few remain visible; there are reports that others were broken up during the war, but it seems likely that a number are buried in a field near by. The re-excavation of these, as well as a more extensive investigation of the temple foundations and the platform, might one day afford the evidence for a more complete picture of this important series of Ionic temples than can be given here.

The first important group of mouldings are of buff or *red limestone*. They comprise fragments of column bases and shafts published by Miss Lamb, and an unpublished pendent-leaf moulding built into the chapel on the site.

1-13 are at Phanai but no longer visible.

1-7. Fragments of column bases (tori). Cf. fig. 1 *a, b* for 2 and 6. Lamb, p. 143, fig. 2, nos. 1, 2, 3, 4, 7, 8, 9.

8. Fragment of column base (torus). Lamb, p. 143, fig. 2, no. 5. The diameters of these fragments are not recorded but the profile of this fragment suggests a diameter appreciably greater than that of 1-7.

9-12. Fragments of column bases (discs). Cf. fig. 1 *a, b* for 9 and 11. Lamb, p. 143, fig. 2, nos. 12-15.

13. Column drums. Lamb, p. 142, two are mentioned of diameter 0.79, heights 0.185 and 0.18. Their shallow proportions are noteworthy.

14. Pendent leaves on a half-round moulding. Plate xxvi *b*. At Phanai, built into the apse of a small church on the site; hitherto unpublished, and now (1957) plastered over and barely visible. H. 0.13, W. 0.39, spacing of the decoration 0.09.

To attempt any detailed reconstruction of a single building from such scraps is impossible. In particular the outsize torus, no. 8, cannot easily be explained unless

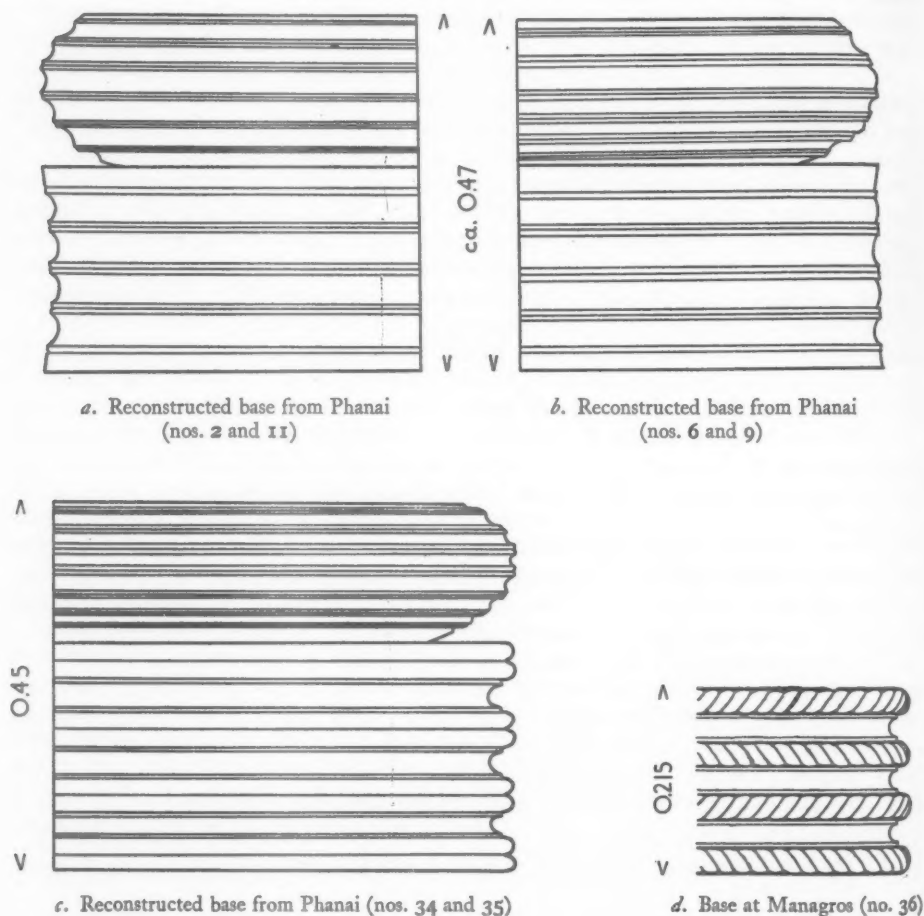


FIG. 1

it sat upon a disc about equal to it in height. In so far as the fluting schemes of the torus and disc of a column might be expected to correspond, our nos. 2 and 11, and 6 and 9 might be paired. A possible reconstruction of these bases appears in fig. 1 *a*, *b*. The proportion of height to diameter of the discs I have made about

1:4½, working from the diameter of the drums (no. 13) and the curve of the disc fragments. The Samian discs, which are earlier (see below), have 1:5 or 6, and the Ephesian 1:4½.

The bases are of the characteristic Asiatic Ionic type (one might more accurately but less happily call it Ionian Ionic) with torus above a fluted disc (or *spira*). The most important early groups of such bases from Ionia are those built into the second dipteron at the Heraion on Samos, which stood in the earlier temple there: that called the Rhoikos temple by the excavators and which I refer to here as the first

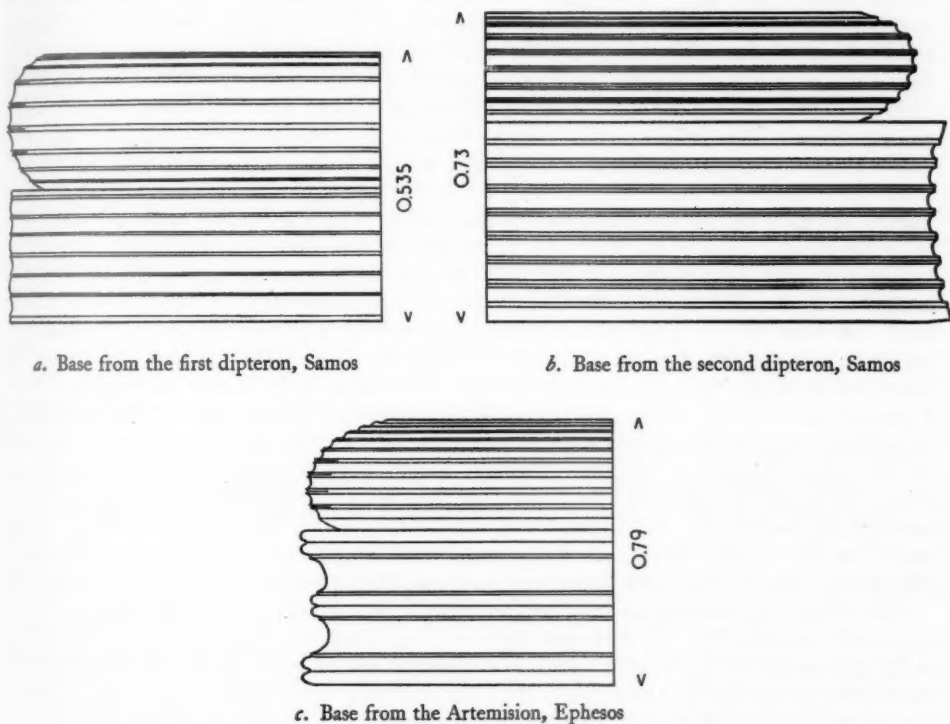


FIG. 2. (These bases are not drawn to the same scale.)

dipteron. They are published by H. Johannes in *A.M.* lxii (1937), 13 ff. The fluting of both members shows extraordinary variety—as it does also at Phanai, but on the whole the Samian examples have shallower convex or concave flutes and the profile of the disc is almost straight with but little concavity. I show a typical Samian base reconstructed in fig. 2 a.¹ The shallowness seems certainly a sign of an early date, and stands in conspicuous contrast with the Ephesian type, from the Artemision, with their deep scotiae separated by the usual double astragal (fig. 2 c),²

¹ From Johannes, *op. cit.*, p. 26, fig. 7 left.

² From D. G. Hogarth, *Ephesus*, Atlas, pl. 3.

and with fifth-century examples in which these features are accentuated further. That the differences between the Samian and Ephesian bases is one of date as well as place is demonstrated by the presence of both types at Phanai in circumstances which strongly suggest the priority of the shallow-fluted. On the earliest Samian bases we do not find the flat double fillet dividing the flutes or channels which is regular at Phanai, and which seems a later feature.

The first dipteron on Samos is dated by Buschor 560–550 B.C. or earlier (see below, pp. 199 f.). Shoe dates it c. 550 B.C. and the archaic mouldings from the Artemision c. 560 B.C. This order cannot be correct, whatever the other profiles may suggest, in view of the clear development in the fluting of the bases and the evidence of Phanai. The double fillet between the flutes which we missed on the earliest Samian bases, but find at Phanai, appears on the second dipteron at Samos¹ (fig. 2 *b*) whose *terminus post quem* (the burning of the first dipteron) cannot be closely dated. The proportion in height of torus to disc in the second dipteron is about 1:1½–2, which is about that suggested by the Phanai fragments and contrasts with the 1:1 in the first dipteron and 1:1½ at Ephesos. The second dipteron at Samos seems from its base mouldings and flutes, which are comparatively deep,² to be later than most of the Ephesos bases. That it retains the earlier type of disc rather than the new Ephesian one may be due to the conservatism of the same architect or school. As we shall see, Chios compromises between the two types of base. In view of the close parallels with the second dipteron on Samos I would invert the fragments of torus as drawn in Lamb, p. 143, fig. 2, so that the greater diameter is at the top. This seems to have been the rule at Samos (though not at Ephesos) and on this assumption the drawings in fig. 1 were made. The Phanai mouldings seem to lie stylistically between the two Samian groups, closer to those of the second dipteron, and are perhaps contemporary with much at Ephesos. From what can be guessed about the chronology of the Samian buildings a date towards the end of the third quarter of the sixth century may not be far from the mark for the Phanai bases. A base from Naukratis is comparable in style and proportions but it cannot be dated on independent grounds.³

The drum fragments, no. 13, are not fluted, but need not for that reason be regarded as unfinished. The diameter of one is quoted as 0.79, which is important as the diameters of the base fragments are not recorded and could not perhaps be accurately determined. It suggests that the building was, or was intended to be, almost as large as its marble successor, with a column height of about 7 metres. After Samos and Ephesos it was the largest sixth-century Ionic building for which evidence survives.

The pendent-leaf moulding, no. 14, is of a type as old as is monumental architecture in East Greece. The earliest examples of the decoration are distinguished

¹ From *Antiquities of Ionia*, i. ch. v, pl. 5, 1.

² Ibid., pls. 2–5; Shoe, pls. LXV, 8 and LXXI, 23, 27; O. Reuther, *Der Heratempel von Samos*, Drawings Z 23–31. The preserved bases of the second dipteron are late works copying their archaic prototypes (E. Buschor, *A.M.* lv (1930), 96–99; Johannes, *op. cit.*, p. 28; Reuther, *op. cit.*, p. 65). A base

in Berlin with a half-round, not an ovolo, torus may be from the earliest period of the building; see Shoe, pls. LXV, 3 and LXXI, 24; C. Weickert, *Antike Architektur*, p. 66, fig. 36; Reuther, *op. cit.*, p. 52, fig. 7.

³ W. M. F. Petrie, *Naukratis*, i, pl. 3; see below, p. 203.

by their execution (Old Smyrna,¹ and perhaps Neandria); the later by the pointing of the leaf and the regular appearance of the thin pointed dart,² a vestige of an overlapped leaf. The classical leaf and dart on a cyma reversa moulding seems to have developed from it, though an Ephesian abacus gives no safe date for the appearance of the squatter type. The older, elongated form is still found on the Peisistratid Altar at Athens at the end of the century.³ Our moulding has undated kin at Neandria⁴ and Emporio, and seems earlier than anything at Ephesos; earlier too than the Phanai bases in the same material. It might be a wall crown, or belong to an altar or similar structure.

With no capitals or mouldings in the same material preserved from the upper part of the building we may indeed wonder whether it was ever finished. In this respect it resembles the first dipteron in Samos where only bases and drums are preserved. The upper part of this building was presumably of wood but the form of the capitals can only be guessed.⁵ We cannot be certain that in Samos the Ionic capital had as yet been evolved to supplant either any Aeolic form or even the deep rounded capital found on an early votive monument on Samos and on later ones in Athens,⁶ and which might have had monumental counterparts. The Naxian Ionic capitals for the sphinx dedications at Delphi and on Delos are of about this date and show the primitive type which might have been employed, probably with separate cushion and echinus necking, and the volute channels not linked. A limestone sarcophagus in Samos has relief columns with Ionic capitals and bases akin to the usual discs but deeper and with no torus above them;⁷ a date for this monument before the first dipteron does not seem to me tenable, but it may suggest the appearance of an early, true Ionic column in the island.

In suggesting dates for some of the marble mouldings to which we now turn I am to some extent anticipating arguments developed in a later part of this study.

The earliest *white marble* mouldings from Phanai have bold archaic forms. They are:

15. Egg and dart on a half-round moulding. Plate xxvi *a*. At Phanai. H. 0.24, spacing of the decoration 0.245. Shoe, pl. 1, 3; Lamb, pl. 30 *c* (below). Not mentioned by Kourouniotes unless it is the giant astragal (*A. Delt.* i (1915), 85; cf. Weickert, p. 127).
16. Leaf and dart on a cyma reversa. Plate xxxi *a*, *A*. The leaf is carved with volutes and palmettes. At Phanai, but no longer visible. H. 0.23, spacing of the decoration 0.17. *A. Delt.* i (1915), 81, fig. 21, 85; Shoe, pl. xxv, 6; Lamb, pl. 30 *a*, *b*; Kleemann, pls. 23 *b*, 35.

¹ *J.H.S.* lxxii (1952), pl. 6, 3; late seventh century.

² Compare the examples from Thasos, and Bakalakis' discussion in *Ö.Jh.* xliii (1958), 18 ff.

³ Shoe, pl. xxvi, 2; C. Weickert, *Das Lesbische Kymation*, pl. 3 *a*. See below, pp. 206 f.

⁴ R. Koldewey, *Neandria*, p. 29, fig. 59; K. Scheffold, *Larisa am Hermos*, i, pl. 25 *d* (inverted).

⁵ Buschor thought that the capitals of the first dipteron could have been wooden; *A.M.* lvii (1933), 29 f. Reuther, *op. cit.*, p. 62, discusses the

possibility of flat roofs for the early Ionic temples at Samos and Ephesos, but the tiles of the first dipteron at least seem to suggest a pitched roof.

⁶ A. Raubitschek, *Bull. Inst. Bulg.* xii (1938), 172 ff.

⁷ *A.M.* xxv (1900), 208-11; *R.M.* lviii (1943), 3, Fig. 1; Kleemann, pl. 25 *a*. This splaying cavetto recurs as a wall base moulding at Phanai (below, no. 22), Emporio, and Larisa. Compare too the bases from the Artemision on Delos (Shoe, pl. lxxi, 26) and in the Apollo temple at Bassai.

The half-round moulding of no. 15 exaggerates the archaic appearance of the eggs. From plate xxvi *a* it can be seen that in fact they are beginning to point slightly;¹ and the darts run high between them; higher than on the Ephesos echinus and epistyle crown, which also carry a more rounded base for the egg. Despite the half-round, therefore, which is generally regarded as primitive Ionic, a comparatively late date is to be preferred. The commonly remarked Greek practice of matching the carved decoration of a moulding to its profile is not always observed in every detail.

The palmettes on no. 16 suggest a date still in the sixth century and the whole decoration of the moulding is too complex to allow comparison with the simpler leaf mouldings from other sites. Neither no. 15 nor no. 16 seems to me possibly earlier than the last quarter of the sixth century.

The next group of mouldings are all in, or from, churches up the valley from Phanai. They are of *white marble* and characterized by extremely elaborate carving:

17. Egg and dart on an ovolo. Plates xxix *c*, xxxi *c*, C. From the Eisodia tes Panagias, Managros, Chios Museum 287. The eggs are carved with palmettes, lotus, and scales. The moulding is a wall crown from an *inside* corner. The corner itself is filled by a relief Gorgoneion. H. 0.17, spacing of the decoration 0.151. *A. Delt.* i (1915), 86, figs. 27-28; *A.A.* 1915, pp. 201 f., fig. 8; Shoe, pls. iv, 4 and A, 10; Kleemann, pls. 23 *b*, 34.
18. Fragment of a relief Gorgoneion; part of the mouth only is preserved. Plate xxix *b*. Chios Museum; from Phanai. L. 0.12. Lamb, p. 153.
19. Egg and dart on an ovolo. Plates xxix *d*, xxxi *d*, D. The eggs are carved with palmettes and lotus. From the Eisodia tes Panagias, Managros; Chios Museum 288. H. 0.17, spacing of the decoration 0.165. *A. Delt.* i (1915), 87, fig. 29 *left*; Shoe, pls. iv, 5 and A, 11; Kleemann, pls. 23 *a*, 34.

The decoration of these mouldings is discussed below and dated to the early fifth century. Kourouniotes and Robertson had dated them all to the sixth century and were followed by Shoe and Lamb. Structurally the eggs show that the tendency to point has gone a stage beyond that apparent on no. 15 and the darts run higher between them. The heavy border to the eggs is very like that of no. 15 and is accentuated by the carved decoration which has whittled away the 'body' of the egg.

No. 17 is important in more than one respect. Being the wall crown for the inside of a room or porch it shows the readiness of Chian architects to put elaborate mouldings in positions usually occupied by plain ones. It therefore seems possible that a single building might house a considerable number of different mouldings of this sort, certainly more than a normal Ionic building of later date would allow. The Gorgoneion as a corner piece is reminiscent of the Gorgon figures which form the corners of an Ionic frieze at Didyma² and the parapet sima at Ephesos,³ or of the Gorgoneion at the corner of a Clazomenian sarcophagus.⁴ A scrap excavated

¹ The tendency to point the egg can already be noticed on the Siphnian Treasury at Delphi.

² T. Wiegand, *Didyma*, pl. 215; G. Lippold, *Griechische Plastik*, pl. 7, 3.

³ W. R. Lethaby, *J.H.S.* xxxvii (1917), 7; *B.M. Cat. Sculpture*, i. 1, 92-94, B 237-42.

⁴ *J.d.I.* xix (1904), 152, fig. 1; cf. M. Launey, *Mon. Piot.* xxxv (1936), 47.

at Phanai, no. 18, matches the more complete example in size though not in detail;¹ it might belong to some similar architectural decoration. At least, there is no sign at Phanai of sculptured friezes or the like.

The carving of nos. 20 and 21 shows them to be appreciably later than nos. 17 and 19. Their similarity to a carved ovolo from Emporio helps to place them in the stylistic development of the Chian mouldings, as is shown below (pp. 191-2).

20. Leaf and curled dart on a cyma reversa. Plates xxix e, xxxii a, E. The leaves are carved with palmettes. From the *Eisodia tes Panagias*, Managros; Chios Museum 289. H. 0.155, spacing of the decoration 0.115; *A. Delt.* i (1915), 87, fig. 29 right; Shoe, pls. xxv, 15 and D, 4; Kleemann, pls. 23 e, 34.
21. Leaf and dart on a cyma reversa. Plate xxx a, F. The leaves are carved with volutes and palmettes. In A. Paraskevi near Kastri, above and to the east of Managros. H. 0.165, W. of the block 0.63. Hitherto unpublished.

Two mouldings in Chian blue-grey marble are best considered next, before the final group in white marble.

22. Cyma reversa and cavetto. Fig. 3. At Phanai. H. 0.22. Shoe, pl. xxv, 20. Possibly the 'geison' of Chian marble mentioned by Kourouniotes in *A. Delt.* i (1915), 85.
23. Fascia and cyma reversa. Fig. 3. At Phanai. Miss Lamb kindly supplied me with the drawing which has not before been published.

Shoe interprets no. 22 as a crowning moulding for a wall. However, both at Larisa² and Emporio the clamps found on similar blocks show that this must be a base moulding. At Emporio the corresponding crowning moulding is preserved; it is like no. 23 and like the crown of the Chian Great Altar at Delphi.³ The Larisa, Emporio, and Phanai mouldings could well be from altars also.

¹ Shorter fangs, both upper and lower teeth shown, and more teeth in the corner of the mouth behind the fangs. The chin creases are comparable.

² *Larisa am Hermos*, i. pls. 41, 8-12; 25f, h; there seem no good grounds for attributing these mouldings to the earliest palace of the mid-sixth century or earlier. For the cavetto as a base moulding see above, p. 177, n. 7. Compare also

the classical altar of the Artemision at Kyrene (*Africa Italiana*, iv, 225, fig. 43) which both Yavis (*Greek Altars*, p. 121) and Hoffmann (*A.J.A.* lvii (1953), 195) regard as archaic.

³ Shoe, p. 55, pl. xxv, 12. On its date see below, p. 207. The moulding is quite common on statue bases from about 500 B.C.; cf. A. Raubitschek, *Dedications from the Athenian Acropolis*, nos. 149,

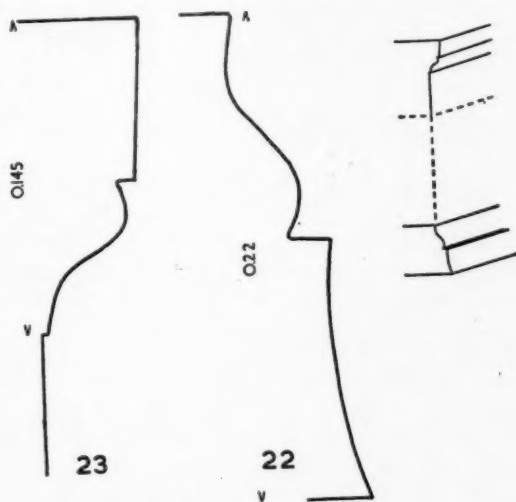


FIG. 3. Profiles of mouldings 22 and 23 from Phanai, and a sketch reconstruction.

The date cannot be determined closely, but from the cyma's resemblance to the Chian moulding at Delphi (which, if anything, looks earlier) a date in the first half of the fifth century is indicated.

The last group of *white marble* mouldings from the area are from Managros and Pyrgi.

24. Egg and dart on an ovolo. At Managros, and in A. Stephanos at Pyrgi. H. 0.175, spacing of the decoration 0.165. Shoe, pls. iv, 3 and A, 9.
25. Egg and dart on an ovolo. Plate xxvi d. At Managros: one fragment high over the door of A. Marina, three in the apse window of the Eisodia tes Panagias, and one by the window of the Genneis tou Christou (Metamorphosis). H. 0.165, spacing of the decoration 0.122. *A. Delt.* i (1915), 87, fig. 30; Shoe, pls. vi, 5 and B, 7. One in the Eisodia tes Panagias, illustrated here, has the corner preserved with decoration of stout volutes on either side of the angle, their eyes hollowed for inlay.
26. Egg and dart on an ovolo. From Managros; Chios Museum 291. H. 0.085, spacing of the decoration 0.076. Shoe, pl. vi, 6.
27. Egg and dart on an ovolo. Plate xxvi c. In the Genneis tou Christou (Metamorphosis). H. 0.17. Hitherto unpublished.
28. Leaf and dart on a cyma reversa above a moulding with two scotiae and double astragals (like a column base disc). Plate xxvi d. In the Eisodia tes Panagias, Managros. H. 0.17. *A. Delt.* i (1915), 87, fig. 30; Shoe, pls. xv, 13 and B, 7.

The eggs of nos. 24-27 have gone a stage further in pointedness and in their relatively narrow proportions. The profile of the moulding has not developed so much, but this is simply an indication of local taste, and close analogies from other parts of Greece cannot be expected. The eggs are such that a sixth-century date seems impossible. I would place them well on in the first half of the fifth century.¹ No. 28 stands rather apart and might well be earlier. The scotiae with astragals are unique in a straight moulding or wall base.

Finally there are the *white marble* column fragments.

29. Fragments of a capital. Plate xxvii a, b, fig. 4. At Phanai. The restored drawing gives an abacus of 1.36 by 0.73 and the diameter of the lower surface 0.80. *A. Delt.* ii (1916), 193 f., figs. 6a and β; the upper fragment had disappeared at the time of the photograph published by Miss Lamb, pl. 30 c, d, but Miss Kleemann tells me that she saw it on the site in 1958. The drawing here is based on my own photographs, those published, and some basic measurements; it cannot claim to be final but is not likely to be seriously misleading. The appearance of the front of the echinus is deduced from the eggs preserved beneath the cushion, which are not always a reliable guide.
30. Fragment of a capital. Plate xxvii d. Built into a wall near A. Marina, Managros. W. 0.30. Part of one volute is preserved. There are shallow concave double channels with double sharp arrises between. Large and protuberant eye. Miss Kleemann tells me that she noted that the channels were divided by a rope moulding. This does not appear clearly on the photograph. Mentioned in *A. Delt.* i (1915), 88 f.

150, 184, 296, and a base in Chios Museum with an artist's signature (Hermarchos and —, sons of Midon; otherwise unknown) of the early fifth

century.

¹ Bakalakis has no. 24 still in the third quarter of the sixth century (*Ö. Jh.* xliii (1958), 25).

31. Column drums. At Phanai; most are no longer visible. Lamb, p. 142, mentions marble drums of diameter between 0.77 and 0.92 and height between 0.25 and 0.46. Some are illustrated in *A. Delt.* i (1915), 82, fig. 22; *ibid.*, pp. 81, 83 they are described as between

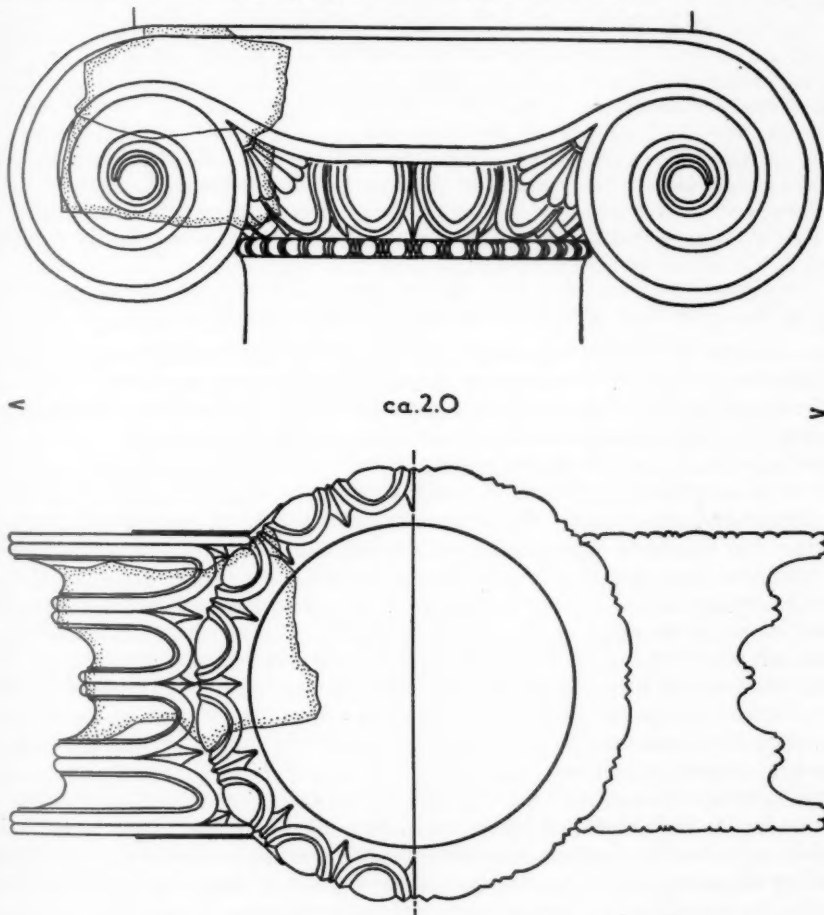


FIG. 4. Reconstructed drawing of the capital, no. 29, at Phanai.

0.76 and 0.80 in diameter, and between 0.30 and 0.50 in height, with drafted edges (W. 0.07), dowel-holes 0.045–0.05 wide, and one with an 'hourglass' mason's mark. None is fluted. One drum whose end is still visible has a diameter of 0.86, central peg-hole (0.55 sq.), and a smooth band 0.105 wide at the edge of the bearing surface.

32. Column drum. 28 flutes with double arrises between. Plate xxvi e. It serves as support for the altar table in A. Marina near Managros (no doubt that mentioned in *A. Delt.* i (1915), 88 f.). H. 0.85, Diam. c. 0.55. W. of flutes, 0.067; depth, 0.021. There are also fragments of unfluted and ordinarily fluted Ionic drums in A. Marina.

33. Column drums from the top of the shaft. At Phanai, but no longer visible; one fragment in Chios Museum. Crowned by an astragal carved with bead and reel. *A. Delt.* i (1915), 84, fig. 24 (with mason's mark Γ) and Lamb, pp. 142-4, figs. 2, 6; 3. The diameter of the last is 0.80.
34. Fragments of column base (torus). Cf. fig. 1 c. Lamb, p. 143, fig. 2, 10 (inverted; the long smooth band goes at the base of the moulding, as at Samos). Shoe, pl. LXV, 4 is the same moulding; this is in Chios Museum and probably from Managros, as no mouldings from the early excavations at Phanai were removed from the site.
35. Column base (disc). Cf. fig. 1 c. At Phanai but no longer visible. *A. Delt.* i (1915), 81, fig. 20. Lamb, p. 143, fig. 2, 16 is from a similar (? the same) base. H. 0.27, Diam. 1.10.
36. Column base (disc). Plate XXVII c, cf. fig. 1 d. In the Eisodia tes Panagias, Managros. Three scotiae; four astragals carved with a rope pattern. H. 0.215, Diam. 0.87. *A. Delt.* i (1915), 88, fig. 31 (inaccurate representation of the rope pattern; the same in *A.A.* 1915, pp. 201 f., fig. 9); Shoe, pl. LXXII, 8.
37. Column base (disc). At Phanai but no longer visible. If from a base like no. 35, as seems probable, it must have been about 0.29 high. Lamb, p. 143, fig. 2, 11.

The relationship of these fragments to the limestone column fragments, nos. 1-13, must first be made clear. Their material is different, they are uniformly larger, and have far more deeply cut scotiae and flutes. That they are later than the limestone mouldings has been shown already by the stratigraphy of the site.

The fragmentary marble capital, no. 29, is the only archaic one from the site, and therefore of especial importance. A reconstructed drawing of it appears in fig. 4. It is difficult to judge exactly the appearance and profile of the echinus from the truncated and squashed eggs preserved beneath the cushion. However these do show much the same incipient tendency to point which was noted on no. 15; if anything it has gone further and approaches nos. 17 and 19 whose unusually heavy and angular frames to the eggs are also closely paralleled on the capital. Detailed comparisons with datable or nearly datable capitals, many of which will be discussed in the next section of this article, yield little. Some generalizations can be made about the development of the early Ionic capital and much has been written on the subject,¹ but no very close dates can be confidently assigned on grounds of volute overhang, abacus proportions, depth or pinch of cushion, etc., although some general trends may be observed. The face of our capital tells little. There was an abacus but we cannot be certain how high it may have been. Having one, it resembles the Ephesian capitals rather than the Samian. As restored the abacus appears extremely elongated, measuring about 0.73 by 1.36, and in this respect too it recalls the proportions of the Ephesian capitals or the Naxian ones, although the proportions of the latter may in part have been determined by the sphinxes they were to carry.² Certainly the way the volute eyes lie well outside the lines of the column shaft lends a thoroughly archaic appearance. In the early fifth century the eyes are much closer (Athens,

¹ Weickert, *passim*; H. Möbius, *A.M.* lii (1927), 165 ff.; K. Schefold, *Larisa am Hermos*, i, 147 f.; Bakalakis, *A.E.* 1936, pp. 16 ff., *Ö. Jh.* xxxvi (1946), 54 ff.; R. Martin, *B.C.H.* lxxviii-lxix (1944-5), 360 ff., 444 f., *Ét. d'Arch. Class.* i (1955-6), 126-8; F. Benoit, *R.A.* xliii (1954),

17 ff.; E. Buschor, *A.M.* lxxii (1957), 14 ff. These give all references to earlier or less critical works.

² P. Amandry, *La Colonne des Naxiens et la Portique des Athéniens (Fouilles de Delphes, ii)*, p. 18.

Kavalla), if not over the sides of the shafts. The convex channels are regular for sixth-century capitals everywhere but in Naxos. The eyes to the volutes suggest a date after the eyeless Ephesian capitals and, perhaps, the small Samian one. The approximate equality in size of the channel and the separating astragal has been remarked by Kontoleon¹ and compared with a Samian stela dated by Buschor about 500 B.C.² A date for the Phanai capital earlier than the last quarter of the sixth century seems improbable in view of the features which seem more advanced than those from Ephesos and Samos, but it can hardly be later than 500 B.C. and it deserves recognition as an important and early example of eastern Ionic.

The shafts, with one notable exception, no. 32, are fluteless, like the limestone shafts and some fifth-century columns at Emporio. The only torus fragments from the bases which are recorded (no. 34) have deep flutes, more like the typical Ionic of later date and like Ephesos, but the fillets between the flutes are double, as on the limestone bases and on the second dipteron at Samos (fig. 2 *b*). This seems a North Ionian feature not shared by Ephesos.³ The base discs show the Ephesian type of scotiae with dividing astragals (fig. 2 *c*), but there are three scotiae, not two, the outline is still practically straight with little concavity, like the earlier Phanai bases, and no. 36 has only single astragals, not the usual double. The last is also distinguished by the rope pattern which is carved on the astragals. This appears also on an early moulding from Emporio (pl. xxix *a*, B), and, but for an isolated example in Crete,⁴ is the first application of this motif to monumental architecture in stone. It appears earlier on architectural terracottas and the like, and may be derived from the long-familiar cable pattern.

A reconstruction of a base combining nos. 34 and 35 appears in fig. 1 *c*. The proportion of height to diameter of the disc is the same in nos. 35 and 36, that is 1:4. It seems that there was a progressive deepening of the moulding in Ionic, as well as a steady change in the proportion between the heights of the disc and the torus.⁵ A rough table of these proportions on some early Ionic bases may be illuminating in this context (p. 184).

The variety in the sizes of the Phanai column bases and shafts does not necessarily preclude the possibility that they are all from one building.⁶ They seem certainly to be all of one date and show what must be a Chian compromise between the earlier Samian bases and the Ephesian. Fluteless shafts may also be a Chian speciality; a deliberate contrast with the studied elaboration of other mouldings.

The fragment of a capital (no. 30, plate xxvii *d*) and the column drum (no. 32,

¹ *A.E.* 1938, pp. 103 f., and cf. J. D. Kontis, *Ann. N.S.* viii-x (1950), 30 (see below, p. 209, n. 8), and D. Evangelides, *A.E.* 1924, p. 79.

² *A.M.* lviii (1933), Beil. 15.

³ It recurs in the Athenian Stoa at Delphi, Amandry, *op. cit.*, p. 98, pl. 24.

⁴ At Afrati, *Ann.* x-xiii (1927-9), 187, fig. 206, 451, fig. 586; apparently seventh century (see below, pp. 211 f.). It is interesting to note its occurrence at Sinjirli above a cushion base (*Sinjirli*, ii, 198, fig. 90, 1; R. Naumann, *Architektur Klein-*

asiens, pp. 130 f., figs. 125, 128.)

⁵ The proportions between the total height of the base and the column diameter remain fairly constant and have no real chronological significance, *pace* Amandry, *op. cit.*, pp. 95 f.

⁶ Discs nos. 35 and 36 are 1.10 and 0.87 in diameter respectively. In the second dipteron at Samos column-base diameters range from 2.29 to 1.87; at Ephesos from 1.725 to 1.51 (see Dinsmoor, pp. 130, 339), and inner columns would have smaller bases still.

plate xxvi e) at A. Marina call for special mention although they cannot readily be attributed to the major temple building at Phanai. The capital's double concave channels reflect closely the treatment of the capitals of the Erechtheion in Athens. The type was copied in later buildings on the Akropolis and in a Hellenistic votive monument at Delphi, while the capitals of the Nereid monument at Xanthos seem

| | Torus ht.: disc ht. | Disc ht.: disc diam. | Date |
|---------------------------------------|------------------------|-------------------------|-----------------------------------|
| Samos, first dipteron ¹ | 1:1 | 1:5-6 | 560-50 |
| Naukratis ² | | 1:5½ | |
| Ephesos | 1:1½ | 1:4½ | third quarter of the 6th cent. |
| Delos, Artemision ³ | 1:1½ | 1:6 | |
| Phanai, limestone | (1:1½) | (1:4½) | |
| Samos, second dipteron | 1:1½ | 1:4-5 | |
| Phanai, marble | (1:2) | 1:4 | about 500 |
| Magnesia, Artemis temple ⁴ | 1:2 | 1:4 | |
| Athens, Akropolis ⁵ | 1:2 | 1:3½ | mid-5th cent. |
| Locri, Maraza temple | 1:2½ | 1:3½ | |

The bases attributed to the 'Aeolic' treasuries at Delphi, the Klazomenian and Massaliot,⁶ have disc height to diameter proportions of 1:3½. Dinsmoor dates them to the third quarter of the sixth century, which is perhaps too early. The end of the sequence may be shown by:

| | | | |
|--------------------------------------|------|-----|----------------|
| Samos, Roman Peripteron ⁷ | 1:2½ | 1:3 | early Imperial |
|--------------------------------------|------|-----|----------------|

also related.⁸ The large eye in the Chian fragment suggests an early date, perhaps still in the fifth century, if the Erechtheion capitals are to be taken as the source for the type. However, the capitals at Xanthos and many Samian features in the treatment of the Erechtheion capitals may mean that the type has its origins in the east. The column drum's double arrises between the flutes are a unique feature in Ionic,

¹ A small base for a column supporting a votive basin seems to be of the same period but has the relevant proportions of 1:2½ and 1:3½; see E. Buschor, *A.M.* lv (1930), Beil. 11, 2.

² The drawing in *Naukratis*, i, pl. 3 is derived from a 'good photograph' (*ibid.*, p. 13) so the proportions may be slightly misleading. The diameter of the fragment in the British Museum (*B.M. Cat. Sculpture*, i, 1, 172, B 391; Shoe, pl. LXXII, 1) is approximately 0.60, its height 0.11.

³ Shoe, pls. LXV, 6 and LXXI, 26. Shallow flutes, and a disc near those of the second dipteron, but with an unusual splaying profile.

⁴ C. Humann and others, *Magnesia am Maeander*, p. 49, fig. 33. Dinsmoor (p. 136) dates the archaic temple in the fifth century. The disc proportions bear this out or could suggest an even earlier date. The material was limestone; the shaft flutes were of the developed Ionic type divided by flat fillets,

and may be some of the earliest examples of it. All certainly sixth-century Ionic shafts have sharp arrises to their flutes (as Doric) when they are fluted at all, except for some poros fragments attributed to the second dipteron on Samos (T. Wiegand, *I. Bericht*, p. 16; Reuther, *op. cit.*, pp. 47 f., Drawing Z 32).

⁵ Shoe, pls. LXV, 5 and LXXII, 11. The shallow flutes and scotiae seem early, and note the double fillets dividing the scotiae on the base disc.

⁶ *B.C.H.* xxxvii (1913), 17 ff., figs. 3, 4.

⁷ *A.M.* lviii (1933), 221, fig. 6.

⁸ Cf. O. Puchstein, *Das Ionische Capitell*, pp. 26 ff., figs. 17-19; J. Durm, *Die Baukunst der Griechen*, p. 311, fig. 290 top; A. W. Lawrence, *Greek Architecture*, pls. 75, 102 a; G. Niemann, *Das Nereiden-Monument*, pl. 2; *Türk. Ark. Dergisi*, vii, 1 (1957), pl. 7, 5; R. Martin, *B.C.H.* lxxviii-lxxix (1944-5), 371.

but compare the treatment of the horizontal flutes on bases at Ephesos and in the first dipteron on Samos (as fig. 2 *a*, *c*). Its twenty-eight flutes indicate the period in which numbers greater than the canonical twenty-four were common; that is, not later than the early fifth century.¹

Before reviewing the material assembled here I add a number of early mouldings from south-east Chios (but not from Emporio); some are from Phanai but lost or not identifiable; others cannot be certainly attributed to either of the known temple sites in the south; also an unusual piece of architectural decoration from Phanai, a Pegasos protome.

38. Egg and dart on an ovolo. White marble. In the apse of the church of the Panagia on the road from Kalamoti to Metochi (towards Emporio). H. 0.155, W. 0.20. In the same church a moulding from Emporio (below, plate xxx *c*, J). Narrow, elongated eggs, as no. 25. Hitherto unpublished.
39. Egg and dart on an ovolo. White marble. In the church of A. Ioannis Theologos in a valley west of Pyrgi, not far from the head of the valley leading to Phanai. H. 0.14. Like no. 38. Hitherto unpublished.
40. Column drums. White marble. In the same church's court. Diam. 0.61. Not fluted. Hitherto unpublished.
41. Leaf and dart on a cyma reversa. White marble. Over the side door of the Panagia church in Kalamoti. Shoe, pls. xxv, 14 and D, 3. Second half of the sixth century.
42. A 'geison' at Phanai. Mentioned by Kourouniotes as being of Chian marble, *A. Delt.* i (1915), 85. Perhaps it is our no. 22.
43. Small pieces of marble bead and reel moulding, from Phanai. Lamb, p. 144. Some are said to be straight, and may be wall footings or the like.
44. Pegasos protome. White marble. Chios Museum 250; from Phanai. Plate xxvii *e*. The cuttings at the back and below show that it was used architecturally. Archaic, perhaps late sixth century. N. Kontoleon, *A.E.* 1939-41, *παρὰ*. 24-26, figs. 1-3.

It remains to attempt a synthesis and summary of all the Phanai mouldings, although we can hope for but few certain conclusions. Broadly speaking we have a homogeneous group of limestone mouldings of the third quarter of the sixth century, followed by groups of various marble mouldings, including parts of columns which seem of late sixth-century date. Hitherto all these marble mouldings have been dated to the sixth century—by Kourouniotes, Robertson, Weickert and Shoe, and Lamb and Dinsmoor have accepted these dates. In fact the mouldings range over half a century.

Weickert,² who wrote before Lamb's excavations, apportioned the mouldings found by Kourouniotes to different buildings, believing that there were other temples at Managros—a theory supported in general by the broad similarity of the pieces found there, but which we have found reason to suspect. Admitting the presence of foundation blocks from an earlier building (noted by Kourouniotes) he assigned to the temple of Apollo Phanaïos the mouldings here numbered 15 (?), 16, 29, 31, 33, 35, a relief sima (!) and the blocks with swallow-tail clamps. To a second,

¹ Cf. Dinsmoor, Index C, s.v. Flutes (Ionic); ² *Typen*, pp. 127 f. Amandry, *op. cit.*, pp. 15 f.

and smaller, building at Managros he gave our nos. 17, 19, 20, 28(?), 36; to another building no. 25, and to a building at A. Marina the stones found there, nos. 30, 32.

Discounting, as seems reasonable, difference in find-places, we seem in fact to have:

- (i) The limestone mouldings nos. 1-13, probably all from one building of the third quarter of the sixth century, and antedating the latest terrace wall at Phanai.
- (ii) White marble mouldings of the late sixth century, nos. 15, 16. With this building period and perhaps building the column fragments nos. 29, 31, 33-37 seem best to accord, although I would not rule out the possibility that they might be dated with
- (iii) White marble mouldings of the early fifth century, nos. 17-20 and perhaps 28.
- (iv) White marble mouldings nos. 24-27 of the second quarter of the fifth century.

All these mouldings might find a place on a temple. Nos. 22 and 23 might be from an altar. The main marble temple at Phanai, with Chian marble wall blocks, postdates the building of the last terrace. It seems reasonable to associate it with the only marble column fragments and bases preserved, and to put the building of the terrace therefore between our (i) and (ii). Stratigraphically the building of the terrace may lie in the third quarter of the sixth century, but if the excavators' date of 500 is correct the columns and mouldings must be correspondingly down-dated, (ii) might be associated with (iii), and some conceptions about the development of Ionic in this period may need revision. Herodotos says that after the battle of Lade (494 B.C.) the Persians sacked various islands including Chios, and burned the temples. If Phanai suffered this should give an important fixed point, although whether the mouldings of our (iii) should be dated before or after the catastrophe is not easily determined. I am inclined to the latter alternative. How far the later mouldings represent a rebuilding of the temple or the completion of an incomplete or partially destroyed one, or belong to quite other sanctuary buildings, cannot be judged. Both Apollo and Artemis were worshipped at Phanai and there might have been a shrine for the goddess as well, although I doubt it.

Later, pre-Byzantine, building at Phanai is represented by the capital published by Lamb, p. 145, pl. 30 e, there compared with fourth-century work at Sardis.

A word about materials and general construction. The limestone mouldings and blocks were quarried at A. Kyriaki near by, as Kourouniotes discovered.¹ The white marble was thought by Kourouniotes' workmen to be from Tenos. It is fairly coarse-grained though greyish, and in this respect more than any other is unlike Parian, which Chian sculptors are said to have employed. This, at any rate, is not borne out by the archaic sculpture found in the island, whose marble closely resembles that of the mouldings. It may have been quarried on the island but the source has yet to be found; we should expect a local source if such a flourishing

¹ *A. Delt.* ii (1916), 192 and fig. 5. Fustel de Coulanges had noted the quarries already (see above, p. 172, n. 1).

school of sculpture developed in Chios, but it may not have been inexhaustible. The paucity of surviving marble mouldings at Phanai is explained in part by the lime-kilns there, in part by the stones carried away from the site for building near by. The temple area itself had also been considerably disturbed in the building of the Basilica Church and was riddled with Christian graves. The blue-grey marble used for nos. 22 and 23 and for the wall blocks of the marble temple was quarried just north of Chios town (Latomi). The drafted margins on these wall blocks are noteworthy so early, though they had already appeared on the altar at Cape Monodendri near Miletos. The swallow-tail clamp-holes with the separate peg-holes resemble those from the Knidian Treasury at Delphi and elsewhere.¹ The monumental stairways with two opposed flights which lead on to both the early and late sixth-century terraces cannot be paralleled on other Greek sites and will be mentioned again below.

If the above indications are correct the final, classical form of the temple of Apollo Phanaios involved a structure of white marble columns and decorative mouldings, and blue-grey marble wall blocks. This is an early example of deliberate architectural colour contrast in Greece. In Old Smyrna something comparable appears at the end of the seventh century.² The Chian fondness for it is illustrated by the Chian Great Altar at Delphi³ and the temples at Emporio. At Ephesos a gold inlay was apparently used on some of the decorative mouldings. The practice seems wholly Ionian in this period, and is only followed in mainland Greece later in the fifth century.⁴ It has eastern antecedents in the North Syrian relief sculptures with their alternating white limestone and black basalt slabs, and in some Urartian architecture,⁵ but in the east colour contrast is employed mainly to vary an otherwise uniform frieze or wall face and not to pick out individual architectural members; there can be no direct connexion with the Ionian practice.

For completeness I add a number of early mouldings now in Chios Museum which have no recorded provenance, although some of them might well be from Phanai, as well as the very few found in Chios town or elsewhere in the island:

45. Egg and dart on an ovolo. Chios Museum. White marble. The eggs with 'thumb-nail' cuttings near their bases: inverted crescent-shaped depressions which might have served to relieve the pointed appearance of the egg. Shoe, pls. iv, 7 and A, 12.
46. Egg and dart on an ovolo. Chios Museum 673. White marble. H. 0.135. Cf. no. 25 for the style and profile.
47. Egg and dart on an ovolo. Chios Museum (found in 1958) from Chios town. White marble. H. 0.17. Cf. no. 27.
48. Leaf and dart on a cyma reversa. Chios Museum 624. White marble. Shoe, pls. xxv, 10 and D, 2.
49. Ovolo and kymation combined in a crowning moulding. Chios Museum 191. Plate xxvii f.

¹ B.C.H. xxxvii (1913), 9, fig. 1 left; cf. also the Monodendri altar, *Milet*, i. 4, 451; D. G. Hogarth, *Ephesus*, Atlas, pl. 10, and Martin, *op. cit.*, p. 149.

² *J.H.S.* lxxii (1952), 105.

³ The crowning moulding and base are of white

marble, the rest of the face is of black marble; *Fouilles de Delphes*, ii (*La Terrasse du Temple*), 119 ff.

⁴ L. T. Shoe, *Hesp.*, Suppl. viii, 341 ff.

⁵ See below, p. 217, n. 4.

From the Kastro in Chios town (a rich source of worked blocks, including inscriptions, which had been taken from the ancient city for building-material). White marble. Shoe, pl. vii, 8. The thin eggs, long darts, and the palmettes in both egg and leaf friezes look later than the sixth-century date proposed by Shoe, and the execution might suggest a late copy. The original block was T-shaped in plan with the mouldings running in each right angle, for inner walls with a cross-wall.

50. Egg and dart on an ovolo. Chios Museum, from the Kastro. White marble. H. 0.10. The eggs carved with palmettes and lotus. Hitherto unpublished. See below, pp. 190, 192. Plates xxx d, xxxii d, K.
51. Necking of a capital. Chios Museum 601. White marble. Shoe, pls. iii, 3 and A, 5. Late sixth century.
52. Ionic capital. Plate xxviii. Chios Museum. Chian blue-grey marble. Preserved H. 0.28, 0.24 at the centre of the cushion; W. 0.65; D. 0.33; Diam. beneath 0.32. The volutes have concave channels, the cushion sides scotiae in the archaic manner. A relief palmette is carved in the centre front of the cushion. The eggs beneath the cushion are not carved, and the volutes and echinus at the back are completely plain. The upper part of the cushion sides is carved with a member over the scotiae, almost curtaining them, or like a peltet.
53. Fragment of an Ionic corner capital. Chios Museum, from Chios town. N. Kontoleon, *P.A.E.* 1953, p. 272, fig. 7. The corner volute is partly preserved; its outer edge is carved with a palmette. The way the volute thickens towards its outer edge is odd, and it may be that it is from an akroterion or the like, and not a capital. Second half of the fifth century.
54. Inscribed column shaft from near Tholopotami. H. 1.86. N. Kontoleon, *P.A.E.* 1952, pp. 527-9, figs. 11, 12. Twenty flutes with sharp arrises. The shaft becomes square in section towards the base.
55. Anthemion from a stela. Chios Museum, from Chios town. N. Kontoleon, *A.E.* 1938, pp. 101-4, fig. 1.

Only the palmette on the cushion of no. 52 gives some indication of date, and this only shows that it cannot be earlier than the later fifth century B.C.¹ The concave channels indicate that the archaic manner, which died hard in Ionia, had been abandoned; but perhaps not long before, as the cushion sides, under their strange cowl, are treated still in the manner of the Ephesian capitals or our no. 29.

No. 54 is particularly interesting as it is probably the earliest column shaft from Chios (apparently a column dedication) and one of the only two early ones with flutes on the island (cf. no. 32). Sharp arrises to the flutes are the rule on the earliest Ionic columns outside Chios. It would be interesting to know what sort of capital it carried. Kontoleon dates the inscription on it to the beginning of the sixth century, but the second quarter might be nearer the mark; hardly later than the famous constitution inscription which was found very near it.²

The anthemion no. 55 is dated by Kontoleon to about 540 B.C. It is a fine example of a class which represents a high point in Ionian art of the archaic period.³

¹ Other capitals in Chios with similar decoration are *B.S.A.* xxv (1934-5), pl. 30 e (Phanai) and fragments from Emporio. Cf. also H. Drerup, *M.d.A.I.* v (1952), 13.

² M. N. Tod, *Greek Historical Inscriptions*, no. 1; L. H. Jeffery, *B.S.A.* li (1956), 157-67.

³ The Samian series is the best known; on this

see below, pp. 201 f. There are comparable examples from: the Troad (P. Jacobsthal, *Ornamente griechischer Vasen*, pl. 137 a); Sardis (*Sardis*, ii. 1, 78 f., figs. 92-94); Old Smyrna; and cf. Erythrai (*Ö.Jh.* xv (1912), Beibl. 64-66, figs. 50-51; xvi (1913), 57-60, figs. 20-21; C. Watzinger in *Genethliakon W. Schmid*, p. 144, fig. 2) and the

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The earliest carved decoration with any architectural flavour whatever is the zigzag tooth pattern which borders a stone sarcophagus found at Rizari (Chios town) by Professor Kontoleon, and dated by him to the early seventh century by its context.¹ A close parallel for the motif, date, and perhaps purpose appears in the cemetery at Afrati in Crete, and an analogous style of decoration occurs on a sarcophagus fragment from the West Cemetery at Samos.²

II. SOME DECORATIVE MOULDINGS AND THE CHIAN SCHOOL

A number of mouldings which are distinguished by their elaborate carved decoration have been already listed in the catalogue of pieces from Phanai. They appear again here together with similar mouldings from the British School's excavations at Emporio, others found built into churches in south-east Chios, and one from Chios town. They are labelled by capital letters and illustrated in plates xxxi-xxxii. As one of the main points of interest in these pieces is their carved decoration I have represented this developed, unrolled; the profiles of the mouldings themselves are grouped in fig. 5. As the fragments comprising A have disappeared the drawing has been reconstructed from the published photographs and from a frontal drawing kindly supplied to me by Miss Lamb. L, from Olbia, is included in the list for comparison only. Where profiles have been published by Miss Shoe I have copied her drawings.

All the mouldings are carved from *white marble*:

Group I

- A. From Phanai. Above, no. 16. *A. Delt.* i (1915), 81, fig. 21; Shoe, pl. xxv, 6; Lamb, pl. 30 a, b. Plate xxxi a, fig. 5.
- B. From Emporio. Plates xxix a, xxxi b, fig. 5.

Group II

- C. From Phanai (Managros): Chios Museum 287. Above, no. 17 and cf. 18. *A. Delt.* i (1915), 86, figs. 27-28; *A.A.* 1915, pp. 201 f., fig. 8; Shoe, pls. iv, 4 and A, 10; Kleemann, pls. 23 c, 34. Plates xxix c, xxxi c, fig. 5.
- D. From Phanai (Managros): Chios Museum 288. Above, no. 19. *A. Delt.* i (1915), 87, fig. 29 left; Shoe, pls. iv, 5 and A, 11; Kleemann, pls. 23 a, 34. Plates xxix d, xxxi d, fig. 5.

Group III

- E. From Phanai (Managros): Chios Museum 289. Above, no. 20. *A. Delt.* i (1915), 87, fig. 29 right; Shoe, pls. xxv, 15 and D, 4; Kleemann, pls. 23 e, 34. Plates xxix e, xxxii a, fig. 5.

stele from Dorylaion (*A.M.* xx (1895), pl. 1; G. Lippold, *Griechische Plastik*, pl. 18, 1). Also East Greek work in the north, at Perinthos (a Samian colony; Watzinger, *op. cit.*, p. 149, fig. 7); Giase-Ada (? Stryma; *A.J.A.* lxi (1957), pl. 86, 17); Thasos (*A.J.A.* liii (1949), pl. 46 c). For the

fifth-century stelai see E. Akurgal, *Zwei Grabstelen vorklassischer Zeit aus Sinope* (*Berlin Winckelmannsprogramm* cxi), pp. 14 ff.

¹ *P.A.E.* 1952, pp. 524-6, figs. 6-7.

² *Ann.* x-xii (1927-9), 450, fig. 585.

F. From Phanai (Kastri). Above, no. 21. Plate xxx a.

G. From Emporio. Plates xxx b, xxxii b, fig. 5. There is an identical moulding in the church of A. Stephanos, Pyrgi: Shoe, pls. iv, 8 and A, 9. *B.C.H.* lxxix (1955), 289, fig. 13; Kleemann, pl. 23 d.

Group IV

H. From Emporio. See J, below.

J. Two mouldings as H:

(a) From a church at Sikelia,¹ north of Kalamoti, now in Chios Museum. W. 1.025, H. 0.165, D. 0.78. Shoe, pl. vi, 7. Plate xxxii c, fig. 5.

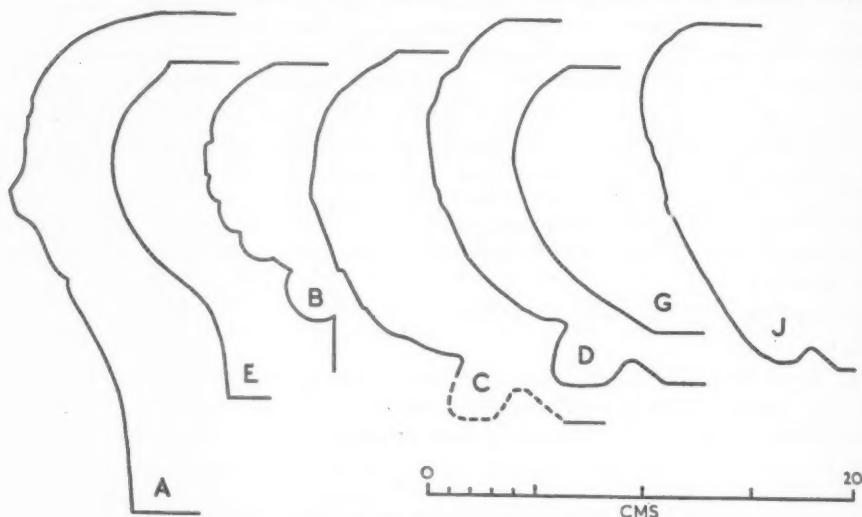


FIG. 5. Profiles of ornate mouldings

(b) In the Panagia church between Emporio and Kalamoti. W. 1.25, H. 0.165. Plate xxx c. Size, execution, and decoration match H except that the treatment of the lotus base differs slightly. These were presumably also from Emporio.

K. From the Kastro in Chios town, now in Chios Museum. Above, no. 50. Plates xxx d, xxxii d.

L. From Olbia, S. Russia. *A.A.* 1906, pp. 121 f., fig. 7; E. H. Minns, *Scythians and Greeks*, p. 294; Weickert, p. 128; Kleemann, pl. 23 f.

We may deal first with the composition of the decoration on these mouldings, secondly with their date, and thirdly with their antecedents and contemporaries in Ionia. The mouldings fall readily into four groups:

Group I. A and B, although from different sites and of very different scales, are

¹ For the church see *A. Delt.* ii (1916), *παρ.* 34 f.

still very close stylistically. The element binding the leaves in one, the eggs in the other, is a plump double volute, in shape rather like a capital *omega* (Ω), with the 'curls' linked to each other and to their neighbours by a flat fillet. The leaf of **A** is decorated with opposed palmettes growing between the curls, but on the egg of **B** the upper palmette is replaced by a broad inverted dart. The darts between leaves and eggs are canonical. The rope astragal below **B** reminds one of the rope mouldings on the column base from Phanai (above, no. 36) which was dated to the late sixth century.

L is added to the list above because it is the closest parallel to these earlier Chian mouldings, and indeed the only one found outside the island. Again there are opposed palmettes on the eggs, whose frames curl into volutes between them. The darts are independent members with a lotus growing from their tops. Though they are fulfilling the decorative function of darts their combination with the lotus must be inspired by the opposed lotus and bud patterns met on vases.¹ That this Chian style of moulding should have been found in Olbia, a Milesian colony, is not surprising in view of the close political ties between Chios and Miletos, and of the presence of Chian pottery in the colony from its earliest days.²

Group II. In **C** the twin volutes appear again on the egg but without the palmettes springing from between them. Instead, the lower part of the egg is covered with a scale pattern, a motif not often met in architecture so early although it appears painted on some Athenian votive capitals³ and carved in the same position on some western Greek capitals.⁴ Here it may be that the artist was thinking of a pine cone.⁵ The darts on **C** are normal but above them, between the eggs, spring broad lotuses.⁶ **D** is related to **C** by the shape of the egg and the profile of its heavy, angular border. The basic unit of decoration is the lotus over palmette, simply superimposed on the eggs with no other elaboration or linking.

Group III. The lotus-over-palmette motif is complicated now by the volute arches which link the eggs, rather as the *omegas* did in Group I. On **E**, a leaf and dart, the volutes between the lotus and palmette are made to continue the outline of the leaf. At the top, and between the leaves, are small palmettes, while the darts have turned into curls. These are a notable feature, for on all the other mouldings the canonical darts are not disguised. The treatment may have been suggested by the volutes on the leaf; join them to the curls and you have the archaic lyre ornament with palmettes spread a little to suit the architectural decoration.⁷ **F**, another leaf and dart, is analogous in general decoration except that the volutes are inverted, there are fewer leaves to the palmettes (5) and the darts are normal. The outer

¹ For some architectonic parallels see A. Andren, *Architectural Terracottas from Etrusco-Italic Temples*, pls. 41-42, 139, 150; and for the buds compare those on the necking of the Naukratis column, Dinsmoor, p. 126, fig. 47.

² R. M. Cook, *B.S.A.* xliv (1949), 160.

³ As *J.d.I.* iii (1888), 274, fig. 13; O. Puchstein, *Das ionische Capitell*, pp. 10, fig. 7, 12, fig. 9.

⁴ As at Locri (Dinsmoor, p. 137, fig. 49); Syracuse, *Notizie*, 1943, p. 82, fig. 39.

⁵ Cf. P. Jacobsthal, *Greek Pins*, p. 68 on the pine cone in Greek art. He denies its occurrence with floral devices. For the Corinthian adaptation of the Assyrian lotus and cone motif see H. Payne, *Necrocorinthia*, pp. 146 f., fig. 54.

⁶ Cf. P. Jacobsthal, *Ornamente griechischer Vasen*, p. 166, n. 315.

⁷ Cf. the decoration of some Clazomenian sarcophagi, e.g. *Acta Archaeologica*, xiii (1942), 33 ff., figs. 19, 23, 33.

lotus leaves are linked to circumscribe the palmettes in the familiar archaic manner. **G** has the same decorative scheme exactly but it is executed on an egg and dart, and is from a different site. Its palmettes are seven-leaved, as on **E**, but the leaves are separated more than on **E** or **F**. **K** is similarly composed but there may have been a slim lotus above the dart.

Group IV. **H** and **J** have simply an inverted lotus and palmette frieze with the outer leaves of the lotuses joined to form the outline of an egg and the centre leaves serving as darts.

There are a number of factors which contribute to establishing the chronology of these mouldings. The volutes from which the floral members spring are broad and plump on **A** and **B** (Group I), and apparently little less so on **L**, where there are no eyes to the volutes. This is comparable with the convex channels of the archaic capitals. Group II shows a progressive thinning of the volute, which in Group III is concave, although here the layout of the decoration may be the determining factor. Certainly the curled darts of **E** retain an appearance close to that of the volutes on **C** and **D**. In Group IV all trace of the earlier plump volute has disappeared.

The actual appearance of the egg or leaf and dart is so much dictated by the decoration carved upon them that it cannot help very much. On Group I the darts are still short, and the egg of **B** has a low broad curve rather like **L**. On Group II the eggs begin to point noticeably and the darts between them climb high. On **G** (Group III) the darts divide the eggs. Pointing of the eggs had already begun in Ionic in the sixth century but we cannot say whether in Chios it had reached the stage shown in Group II by the end of the century. The height of the dart on **D** would be hard to parallel on any certainly sixth-century moulding.

The palmettes themselves, the common factor to all but **C**, give valuable indications of date, as comparative material from carved stelai is not wanting and has been carefully studied already by several scholars. In general the sixth-century palmette has few broad leaves with rounded ends and set close together. Such appear on the Samian and Attic stelai and on early red-figured vases. They change, with time, in a number of different ways. The leaves multiply and separate. They have more pointed ends and angular sections often with a sharp middle rib. The leaves themselves curve and splay more and more, until the flame palmette develops in the second half of the fifth century.¹ In Group I, and perhaps on **L**, they are still of the sixth-century type. Our other palmettes represent the transition between this archaic type and the later fifth-century palmettes, as those of the Erechtheion. The Sounion acroterion, dated little after 450 B.C., has very similar leaves to **J** and the same 'three-dimensional' profile.² Buschor discusses this fifth-century development³ with reference to the anthemion of island stelai, and he quotes datable examples. The leaves of the anthemion on the Giustiniani Stele,⁴ dated around 460 B.C., are very like those on Group IV, but on none of our mouldings appear the

¹ Cf. P. de la Coste Messelière, *Au Musée de Delphes*, pp. 269 ff.

² Cf. Jacobsthal, *op. cit.*, p. 93, pl. 133.

³ *A.M.* lviii (1933), 43-46; cf. lii (1927), 21, and C. Weickert, *Antike Architektur*, pp. 59-61.

⁴ *A.M.* lviii (1933), Beil. 17, 1.

sophisticated curving leaves of the Erechtheion. The closest architectural parallels for these florals are on the Maraza temple at Locri, for which a mid-fifth-century date seems the most satisfactory (see below, p. 211), and anta capitals from Didyma (see below, p. 208).

To summarize: **A** and **B** (Group I), perhaps with **L**, carry carved ornament of sixth-century type. With **C-G** we are already in the fifth century. **C-D** (Group II) are, as we have seen, probably to be assigned to one building period. **H-J**, from Emporio, are best associated with a building whose date towards the middle of the fifth century is suggested in other ways, and their palmettes are closely paralleled on stelai of little before 450 B.C. On the reliable evidence of their carved decoration, and not on any less well-founded architectural parallels, these Chian mouldings can thus be dated over about half a century. Most previous writers have assigned them to the sixth century on no clearly defined architectural grounds and in disregard of their carved ornament. In Shoe's sequence of the profiles all are set in sixth-century contexts. There is certainly considerable similarity in their profiles, but this can only mean that the Chian school preferred the archaic roundness, particularly in the depth of the upper half of ovolo or cyma, which may have been earlier abandoned elsewhere.

This entanglement of palmette and lotus complexes in normal architectural decoration seems wholly Chian. The use of floral chains in architecture was of course a commonplace, but elsewhere it was never used to embellish, or almost disguise, the canonical egg or leaf and dart.¹ The use of a lotus and palmette chain on the rounded mouldings of the wall crown and anta capitals of the Rhoikos altar on Samos is analogous, but there the flowers are upright.² Later, however, notably on anta capitals at Samos and Didyma, inverted friezes appear in the Chian manner, but not so closely related to the eggs and darts above and below as to appear to be imitating them, and not so deeply carved. How far these habits may have been shared by other North Ionian schools we cannot say, but the palmettes which replace the darts of the leaf and dart on some Clazomenian sarcophagi seem to have been planted in much the same spirit, and similar deviations are also met in Attica.³

The lion's paw illustrated in plate xxxiii *a* was excavated at Emporio in the summer of 1955. It is of Chian blue marble and stands 0.38 high, the width at the rear of the block being 0.735. At one side of the block there runs vertically a plain cyma moulding. A detailed description of the piece in its architectural setting is best reserved for the final publication of the architecture from the site, and it suffices here to say that the paw can most plausibly be attributed to a prostyle Ionic temple of the second quarter of the fifth century, of which many other members have been found. My reasons for preferring to identify it as an anta base in this building,

¹ The painted decoration on some Athenian capitals is in some ways comparable; e.g. *J.d.I.* iii (1888), 274 ff., figs. 12, 14, 24, and Puchstein, *op. cit.*, p. 6, fig. 2. Cf. also, much later, the treatment of echinus eggs on a capital at Sardis, *d.J.A.* xvi (1912), 471, fig. 6; *Sardis*, ii. 1, pl. B and Atlas, pl. 8.

² As also, apparently, on a moulding from Myus (near Miletos) in Berlin (Dinsmoor, p. 140). Cf. later the anta capital from Samothrake: A. Conze, *Arch. Untersuchungen auf Samothrake*, pls. 29-30.

³ e.g. Achilles' corslet on the Achilles Painter's vase: E. Buschor, *Griechische Vasen*, p. 201, fig. 217.

rather than as from an altar or the like, will in part appear below, but are not relevant to this discussion, which is intended to treat simply of the architectural use of the lion's paw.

The motif is familiar on a great variety of smaller objects known from other Greek sites, and has remained popular to the present day. As terminals of tripod legs and the supports of many types of furniture, stools, thrones, tables, etc., the lion's paw was almost a commonplace in archaic art. It was not, however, generally applied to larger structures.¹ That its appearance here was suggested by its use on furniture is clear, but it is possible that the idea of applying an animal motif to an architectural subject, and in this position, was in part prompted by an eastern practice which is analogous. On Hittite, Assyrian, and North Syrian buildings stone lions or quadruped monsters were often employed to flank gateways or decorate the corners of walls. I need hardly quote examples, but it is interesting to note that Lethaby has interpreted some fragments from Ephesos as parts of a bull which may have decorated an anta base, and suspected there also a relief dado like that familiar on a number of eastern buildings.² We should also, however, remember that the very use of the lion's paw on furniture derives from the east and appears often on bronzes and Assyrian reliefs;³ although it was never used architecturally.

With one exception these lion's paws are found only on Chios. As well as the example from Emporio there are in Chios town and museum seven other paws, all of a scale which suggests a structure larger than any for which a lion's paw might have been employed elsewhere in Greece. There is also one paw from near Erythrai,⁴ on the mainland opposite Chios, but the practice seems to have spread no farther in North Ionia. These paws need not all, of course, be anta bases, but may have decorated altars, exedrai, or door-jambs.

Plate xxxiii c shows the paws in the courtyard of Chios museum. The fragment resting on the left paw is carved in Chian blue marble and is from a toe. The complete paw must have been considerably larger than the Emporio example as this fragment alone is 0.29 high. Complete, it must have stood some 0.60. The angular cutting of the claw and general finish suggest a date even earlier than that of the Emporio piece. Unfortunately nothing is known of its provenance.

The two near-complete paws on plate xxxiii c measure 0.30 and 0.36 high. They are both of white marble, and as they are more knobby than the Emporio paw they are probably later. It is difficult to judge how much later they may be simply by comparison with animal sculpture, but I doubt whether any of these Chian paws postdate the fourth century B.C.⁵ The paw from Erythrai, mentioned above, is very like that on the right in plate xxxiii c, though slightly smaller.

Beyond Vounaki Square, which lies before Chios Museum, and in the quarter Phrankomachala, is a pair of white marble lion's paws serving as the bases to gate-

¹ White marble paws from Delos approach ours in size but could not have served anything larger than a throne or exedra; *E.A. Delos*, xviii, 3, pl. 5, 52, height 0.18.

² *J.H.S.* xxxvii (1917), 1 f.

³ e.g. H. Frankfort, *The Art and Architecture of*

the Ancient Orient, pls. 89, 114.

⁴ *Ö.Fh.* xv (1912), Beibl. 66-68, figs. 52-53. It is 0.32 high.

⁵ On lions in sculpture see H. Schröder, text to Brunn-Bruckmann, pls. 641-5.

posts in a house. One of them appears in plate xxxiii *b*. There is here less of the elaboration of modelling than on the two paws in the museum, and the more rounded appearance may suggest that this pair is somewhat earlier. On the visible sides of each paw is carved a relief volute pattern. The height of the paws is only 0.24, and they could not have served any structure much larger than that in which they now appear.

The white marble paw figured in plate xxxiii *e* is built upside down into the corner of a Genoese house beside the taverna 'Mastikochora' in Chios town. It is 0.38 high. The coats of whitewash which cover it effectively hide any surface detail or modelling, but it is clear that the claws turn out. This is a feature commonly met on later Classical and Hellenistic animal sculpture and gives no close indication of date. All these white marble paws were probably found in Chios town but there are no records of their exact provenance.

To them may be added a paw of Chian blue-grey marble recovered in 1958 by the epimelete, Mr. A. P. Stephanou (Chios Museum 2038; plate xxxiii *d*). Its height is 0.275. In style it most resembles the Emporio paw, and may be fifth century.

One of the best-known monuments in the island of Chios affords an example of

the use of the lion's paw architecturally as well as some indication of the antiquity of the practice. It is Daskalopetra, or 'Homer's Seat', at Pasha Vrysi, some 6 km. north of Chios town. Beside a spring and within 100 m. of the sea there is a prominent outcrop of rock, partly detached from the main slope, and almost in the centre of a theatre-like hollow. The rock is levelled at the top, making a roughly oval area, and this is in part bordered by cuttings which give the appearance of a continuous seat facing the centre of the area. At the centre, also carved from the rock, stands a block-like monument, much worn, now c. 0.80 high (plate xxxiv). Superficially it resembles a throne or stool, and local scholarship in the middle ages, if not earlier, was not slow to identify there

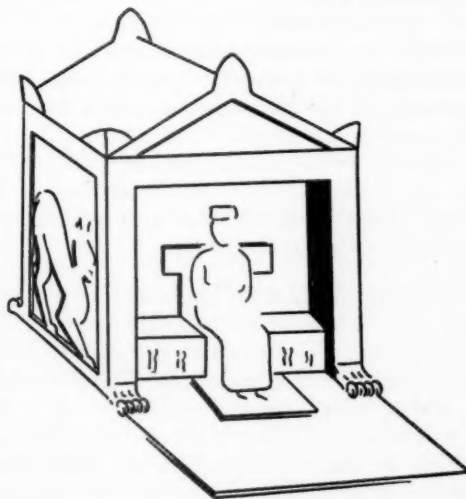


FIG. 6. Daskalopetra. A reconstruction sketch.

the seat of the island's most famous poet, and perhaps even accommodation for the Muses, or at least for the master's pupils. Animals carved on the side of the 'seat' gave rise to lively speculation and reconstructions, but it was generally recognized that there was a small seated figure between the front legs of the 'seat' facing the sea and the east. Pococke's restoration of the monument gives a good idea of the impression it made on early travellers (pl. xxxv).¹

¹ The drawing is taken from R. Pococke, *A Description of the East*, ii, 2, pl. 37. For travellers' descriptions

The elucidation of the 'seat' remained unquestioned until thirty years ago when the scholars Rubensohn and Watzinger carefully studied the monument and recognized it for what it was.¹ They showed it to be a naiskos with a seated Kybele in the porch, in the manner of the many Kybele reliefs which are especially common in East Greece. I give here a rough sketch of the naiskos, partially restored (fig. 6). Figures on either side of the goddess may have been human attendants. The upper part of the building has completely disappeared but the animals, apparently felines, carved in low relief on its sides can still just be made out. Their outlines suggest the archaic period: early fifth, if not sixth century B.C. The antae of the naiskos' porch have lion's paws as bases, and paws appear also at the rear corners of the building, a position for which there can be little structural reason. The paws had been observed before, indeed they had lent credibility to the identification of the 'seat', but they were erroneously ascribed to the relief animals at the sides, which was certainly impossible for those at the rear.

We have here then an example of the use of the lion's paw as anta base in Chios at least as early as any of the preserved lion's paw bases on the island.

Rubschn and Watzinger suggested that the Muses' bench might have been the footing for a brick wall, but the outline would be far too irregular for a building, and putting a naiskos within a naiskos, one roof over another, is illogically un-Greek. The monument is far more likely to be a dedication, civic or personal, sited in an agreeable position by the spring. A thank-offering, perhaps, for a rescue from the sea, for Kybele faces the stormy straits between Chios and Erythraia as well as her eastern homeland.

Finally we may remember the small marble Pegasos protome from Phanai (above, no. 44, plate xxvii e) of the late archaic period. It was certainly used architecturally, as at Thasos,² and it affords another example of the application of animal sculpture to architecture in the island.

It is clear from what has been said in this and the preceding section that although no Chian school of architecture appreciably influenced Ionic styles elsewhere, still one did exist in the island and did develop some individual peculiarities. Of the other Ionian states Samos and Ephesos must claim priority for the part they played in the early evolution of the Ionic order. There may have been Ionic buildings in Chios as early as the first dipteron on Samos or the Artemision, but the first building which we can distinguish is the limestone temple of Apollo Phanaios, which is clearly dependent on the Samian structures. Its successor or successors succumbed rather to Ephesian influence, though not entirely so, for their main mouldings. It is about this time, however, towards the end of the sixth century, that the Chian architects begin superimposing carved floral decoration on the egg and leaf and

see P. P. Argenti and S. P. Kyriakides, *'H Xίος παρά τοῖς Γεωγράφους καὶ Περιηγηταῖς*, pp. 163, 179, 202, 215, 272, 299, 308, 509, 787, 897, 1192, 1784.

¹ In *A.M.* liii (1928), 109 ff. They publish a copy of Choiseul-Gouffier's sketch of the site (*ibid.*, Beil. 31, 1) and chide him for his inaccuracy.

But, as he admits (cf. Argenti and Kyriakides, *op. cit.*, pp. 787 f.), the sketch was from memory as he had that day forgotten his pencil.

² Cf. H. Drerup, *M.d.A.I.* v (1952), 26 f., and for a rather different architectural use of the motif, A. Andren, *op. cit.*, pl. 14, 47.

dart mouldings. And perhaps about this time the motif of the lion's paw was borrowed from minor art and applied to architecture in the island, while a taste for colour contrast in building materials had already been developed. Neither of these two major innovations was an entirely happy one. Both represent Ionic archaic art below its best. Fussy elaboration of detail and bizarre, almost oriental, conceits could not contribute usefully to the development of a major architectural style. In architecture, as in sculpture, the initiative passed for a while to mainland Greece. The great achievements of archaic Ionian art are of the period of Lydian and Persian interference, trade rivalry, and fitful assertions of independence. But the political misfortunes, massacres, and deportations left Ionia without the enlightened patronage for the arts which she had previously enjoyed. In the fifth century Ionian artists and artisans were still at work, but in what had become the provinces of the Athenian empire there was less scope for their skill than in the empire's metropolis, and in the east.

A final word about Chian Ionic, with perhaps an explanation of the form taken by some of its mannerisms. Architecture and sculpture in archaic Greece go hand in hand. Of many of the named architects of the period, from Daidalos on,¹ we hear that they also sculpted, cut gems, or cast bronze. Chios' architectural aberrations in the late archaic period are peculiarly sculptural—the carved florals, the gorgoneia, the lion's paws. It need not then surprise us to learn that Boupalos, scion of the one famous family of Chian sculptors in the sixth century, is credited by Pausanias (iv, 30, 6) with being an architect also: *Βούπαλος δέ, ναούς τε οἰκοδομήσασθαι καὶ ζῶα ἀνὴρ ἀγαθὸς πλάσαι.*

III. NOTES ON THE CHRONOLOGY OF EARLY IONIC ARCHITECTURE

In the first section some attempt was made to point out significant features in the chronological development of the Asiatic Ionic base. There were practically no fixed points on which reliance could be placed, but this seems to be true not only for the base mouldings but for many other details of early Ionic architecture. It makes it all the more difficult to see the relevance of Chian architecture to the main stream of Eastern Ionic when that stream is so poorly charted. Some measure of agreement has been reached by students of classical architecture, but not on all points, and sometimes not on fundamental points. Some dates assigned with confidence are found to be based on ambiguous literary evidence or on ignorance of the clear history of other parts of the structure involved. Some dates determined by the profile of mouldings vary considerably from those probable historically, or from the better established dating of the ornaments carved on them; this is particularly relevant to Chios as we have seen. For the mouldings, Miss Shoe's great collection of drawings and synthesis of shapes are fundamental, but in the period with which we are dealing there are so few reliable dates that when even a few seem to contradict the postulated development of the mouldings we are, I think, justified in treating any too simple explanation of development with extreme caution. There is, after

¹ Notably Rhoikos and Theodoros, and perhaps Smilis and Bathykles.

all, no good reason to suppose that the proportions of mouldings developed steadily and on the same lines in different parts of the Greek world. It is hardly like the development of pottery shapes within a workshop or ware—not even like the influence exerted by one ware on another, for in antiquity vases travelled more easily than mouldings and more often than architects. Some consistent development might be expected within an architectural school, as of Samos, Ephesos, Chios, or Athens, but close correspondence between them cannot be expected; no one school was so paramount as to be the natural leader of the others, and even in the early days of Ionic such diversity is apparent that it is not easy to trace development backwards to a common archetype. The sort of consistency one might more reasonably expect is in the general design of a building, and in the appearance of its parts, such as capitals and bases (as we have seen), and of its subsidiary decoration, such as palmettes, scrolls, etc. Even here local tradition must have counted for much, just as it did in pottery, and there is no all-pervasive style or fashion, such as that provided in the Greek world by Corinthian and then Attic pottery, to which we can appeal.

There are other difficulties too. It is easier to attribute a set of fragments to one vase, than it is to attribute different mouldings to the same building. Even when this can be done one is often faced with the problems of a building which took generations, sometimes centuries, to build, and the extent to which conservatism or contemporary fashion dictated the appearance of the new parts. A final temptation is one into which archaeologists and others fall too readily—that of attributing both enterprises and catastrophes to historical events of whatever nature. A brief access of personal wealth might be enough to prompt a new building, not a national victory or the like. Lightning or local earthquakes may be more destructive than an enemy, but they may leave no historical record. Reuther has suggested that the first dipteron at Samos may have been deliberately burned by Polykrates to make way for his more ambitious plans for the sanctuary, and a little imagination might suggest many more occasions for disaster with no particular political or military background. The Crystal Palace in London burned down in 1936, *between* the two World Wars to either one of which an archaeologist might one day be more tempted to attribute the disaster; and the site from which it was removed in Hyde Park might arouse considerable archaeological speculation. I mention below some possible historical occasions for architectural events, but in the last reckoning it is the archaeological evidence which should be decisive. But we are still far from being able to dogmatize about the dates of architectural motifs.

What I wish to do here is to discuss very briefly some of the sites which have produced Ionic mouldings, especially capitals, and to see to what extent they do or do not contribute information of chronological value; also to consider the dates proposed for some pieces or buildings on grounds of style alone. The preceding section on the elaborately carved Chian mouldings has already brought to light some anomalies in dating. This is a sketchy approach, only in part based on personal inspection of the monuments and owing much to Miss Shoe's collection of drawings, and to Dinsmoor's handbook, as stimulating as it is tantalizing. In a branch of classical archaeology almost better supplied with handbooks than any other it is

a pity that there is no good textbook of basic principles involving a historical account of schools, motifs, and technique. A new Durm would be invaluable.

THE NAXIAN COLUMNS

Dedications of sphinxes on Ionic columns were made by the Naxians at Delphi and at Delos. The Delphi column is dated by Amandry to 570-560 B.C., but from a sculptural standpoint a date rather nearer the middle of the sixth century may be admissible.¹ This carries the earliest approximately datable Ionic capital. The channels of its volutes are concave, unlike most other capitals of the sixth century, and in a manner quite unlike that affected in the fifth century. This may be an experimental stage, but the fashion lingered in Naxos. The echinus is still virtually a girdle of pendent leaves, a compromise between the early 'Blattkranz' mouldings and the large archaic bead and reels. The cushion sides are not moulded and barely pinched. The Delos capital is more developed, as is its sphinx.² The cushion is more pinched and elaborately moulded in an Ephesian manner. An anthemion divides the volutes, as, for all we know, it did on the Delphi capital, though restorations always link the volutes. It is almost as though the Aeolic capital were extending itself to give a broader bearing surface (? to bear the stone, not wooden, upperworks of contemporary architecture), but it had not yet occurred to the architect to join the volutes.³ Anthemia in this position survive on some later Ionic capitals, and are, of course, a regular feature of Aeolic capitals, both architectural and in their humbler but longer-lived capacity as furniture supports, and as the wooden capitals in the houses depicted on vases well into the fifth century.

Fragmentary capitals from Naxos itself reproduce the main features of the dedication capitals but may be a little later than they.⁴

This prominent position held by Naxos in the development of early Ionic architecture is closely paralleled by her earlier lead in the field of monumental sculpture in marble.⁵

SAMOS

Here we have to deal with two major buildings, the first dipteron, called by the excavators the Rhoikos-temple, and the second dipteron, which succeeded it. Buschor dated the construction of the first dipteron to 560-550 B.C. on the basis of the slight ancient traditions about the careers of the architects, the apparent priority of its date to that of the Artemision at Ephesos, and, it seems, on the stratigraphy

¹ P. Amandry, *La Colonne des Naxiens* (*Fouilles de Delphes*, ii), pp. 26-31. The argued dates for the sphinx and the column correspond because the dating for the sculpture and architecture of this period is based on the same 'fixed' point: Ephesos. The correspondence in itself does not mean therefore that the absolute dates proposed are trustworthy, but implies that the monument's place in the apparent development of architecture and sculpture is reasonably certain.

² *Ibid.*, pl. 16.

³ Cf. the votive capitals on Delos in J. Durm, *Die Baukunst der Griechen*, p. 302, fig. 279, 3-4;

Perrot-Chipiez, vii, pl. 53.

⁴ Amandry, *op. cit.*, p. 21, pl. 17, 5-7. And note the recently discovered examples in the island, *P.A.E.* 1954, p. 337, figs. 10-11 (*Tò "Epyov* . . . 1954, p. 45, fig. 59; *B.C.H.* lxxix (1955), 292, fig. 18).

⁵ Drerup holds that the Naxians invented the Ionic capital (see W. Darsow in *Festschrift A. Rumpf*, p. 58), but if this were true I think we should expect the earliest East Greek capitals to reflect the Naxian volute type, which they decidedly do not.

of the site.¹ There are no very serious objections to be made to his dating although Dinsmoor² prefers one around 575 B.C. so that Samos can be the inspiration for the double pteron in temples at Selinus and Syracuse (neither very closely datable). The first dipteron was destroyed by fire. Wiegand³ thought this happened around 517 B.C. when the Persian Otanes massacred the Samians 'both within and outside the sanctuary', but Herodotos (iii, 147) says nothing about any destruction of the Heraion on this occasion which he otherwise records fully. Buschor attributes the fire to an accident of about 530 B.C.⁴ White has suggested 525/4 B.C.,⁵ the occasion of the abortive Spartan siege, but it is very doubtful whether the Spartans would have destroyed a temple of Hera. Reuther's solution I have mentioned above. The only literary reference to a destruction of a Heraion is by Pausanias (vii, 5, 4), who says that it was burnt by the Persians. It is clear that the unfinished second dipteron did not suffer during the aftermath of the Ionic Revolt or the Persian Wars, indeed Herodotos specifically says that the Samian sanctuaries were not touched by Darius (vi, 25, 2), and Pausanias' remark is generally discredited. He couples with the destruction of the Heraion that of the Athena temple at Phokaia. This was presumably at the hands of Harpagos in the late 540s, and the possibility that he meant to imply that the Samian Heraion suffered at the same time cannot be dismissed without consideration. If true, it suggests a Persian invasion of the island for which there is no record, although it is not unreasonable to suppose that such took place.⁶ In this case the second dipteron would remain a Polykratean conception, and its great similarity of detail to the earlier building, involving a conservatism which ignored current developments at Ephesos, could be ascribed to the continued work of the same architect or architects. But Pausanias, or his source, may have used the Persians simply as a popular and convenient explanation for any catastrophe in that period; he goes on to say that the ruins were still impressive, which can hardly long have been true of the first dipteron, and may only be a reference to the still incomplete condition of the building in his day.⁷ The most that we can say of the second dipteron is that it is unlikely that its conception could postdate Polykrates; a date in the third quarter of the century seems likely for the earliest mouldings, for knowledge of which we have to rely largely on the later imitative additions.⁸

The only considerable remains of either temple are the bases which have been already discussed. Fragments of capitals attributed to the second dipteron have convex channels, but the capitals themselves may never have been installed.⁹ The

¹ *A.M.* lv (1930), 50 f. For his latest views on the chronology of the Samian buildings see *A.M.* lxxii (1957), 1 ff.; on p. 4 he admits the possibility of an earlier date for the first dipteron.

² *Op. cit.*, pp. 75, 124.

³ *I. Bericht*, p. 23.

⁴ *A.M.* lv (1930), 95 f. In general on the date of the destruction of the first dipteron see O. Reuther, *Der Heratempel von Samos* (1957), pp. 63 f.

⁵ *J.H.S.* lxxiv (1954), 41.

⁶ Herodotos (i, 169) implies that the islanders submitted to the Persians without a fight. If the

Persians did interfere conceptions of an uninterrupted Samian tyranny might need revision (*M. White, J.H.S.* lxxiv (1954), 36 ff.). Herodotos' silence about any Persian attack in the 540s cannot be lightly ignored, but does not damn the theory that there was one.

⁷ On this see Buschor, *A.M.* lv (1930), 96; Reuther, *op. cit.*, pp. 51, 63-65.

⁸ For references to a possible original base see p. 172, n. 2.

⁹ Reuther, *op. cit.*, pp. 52 f., drawings Z 45-47; and cf. p. 14, fig. 5, 5; *A.M.* lxxii (1957), 16 f.

cushion sides seem to have been moulded in an Ephesian manner, though the bases were not; there was also carved ornament on the cushion sides. The echini, several of which are preserved, are carved separately from the volutes and with the upper drum.¹ As this building remained unfinished longer even than the Artemision at Ephesos comparable problems arise about the dating of many of the members attributed to it.

Small Ionic capitals from the Heraion are probably later than the first building stage of the second dipteron. They are now attributed to a small temple (Temple B). One has the usual convex channels, no eyes to its volutes (like the second dipteron), and small darts between the eggs of the echinus.² Another, with sharper eggs and longer darts should be later.³ That it also has no volute eye shows that this primitive feature long survived in Samos (see also under Athens and Didyma, below). The backs of the capitals are not carved but may have been painted.

The Rhoikos altar⁴ was aligned with the dipteral temples. Stylistically it seems to belong with the earlier. If so, it survived whatever befell the temple. This may mean that the fate of the latter was accidental and warn us against looking for invasions or malice. The carved mouldings of the altar give an important horizon of *architektonika* for this early stage in Ionic.

The nomenclature of the Heraia is worthy of passing note. Theodoros is said by some to have collaborated with Rhoikos and to have written a book on the building. He perhaps worked both for Kroisos⁵ and for Polykrates.⁶ The building which he described and for which he was remembered should surely be the one which survived (though incomplete): the Polykratean second dipteron. Many have seen grounds for believing that it was designed by the same architects as the first. Herodotos says that Rhoikos was the *πρώτος ἀρχιτέκτων* (iii, 60) of the temple 'which is the biggest of all those we know', that is to say of the building as he knew it, the second dipteron. Both Rhoikos and Theodoros may have had a hand in the first temple, but this was short-lived, and their fame must surely have been founded on the later, although the dipteral multi-columnar plan had been anticipated in the earlier. It might seem better then to call the second dipteron the Rhoikos temple, and to argue his and his collaborator's probable responsibility for the earlier building from it, rather than vice versa. Wiegand saw these difficulties⁷ and Weickert objected to Rhoikos' association with the first dipteron,⁸ but in Buschor's publications the title Rhoikos-temple is given to the earlier structure and the name and attribution have been generally accepted ever since.

The Samian grave stelai have some relevance here, especially as the development

¹ Reuther, *op. cit.*, drawings Z 39-44, pls. 21-24. Weickert's suggestion that the columns never carried volutes, and thus gave rise to Vitruvius' description of the temple as Doric, is surely right (cf. Reuther, pp. 62 f.).

² Shoe, pl. B, 1; *A.M.* lxxii (1957), Beil. 10, 2; 14, 1; 108; pl. 15 *left*.

³ *A.M.* lii (1927), pl. 27 *top*; *A.M.* lxxii (1957), Beil. 109, pl. 15 *right*.

⁴ H. Schleif, *A.M.* lviii (1933), 174 ff.

⁵ This may be simply guess-work on the part of Herodotos or the Delphians, as there was no inscription on the dedication, a *krafer* (Hdt. i, 51). Cf. *Real-Encyclopädie* s.v. Theodoros; H. Hoffmann, *A.J.A.* lvii (1953), 193-5.

⁶ The famous ring, Hdt. iii, 41.

⁷ *I. Bericht*, pp. 22 f.

⁸ Weickert, pp. 115 f.

of the volutes from which the anthemion spring has been used to date volute capitals. This has led to a belief that Ionic preferred concave channels for volutes for certain periods in the sixth century.¹ So far as the capitals are concerned there are none with concave channels certainly in the sixth century except for the Naxian primitives and their local followers. What may be preferred in smaller anthemion where lightness and subtle shadow contrasts are important need have no meaning for structural members like the capitals of monumental buildings. Buschor has grouped the stelai and defined their development clearly in *A.M.* lviii (1933), 22 ff. The dating of the earliest is helped by comparison with Rhoikos-altar decoration and the inscriptions on some of the stelai. The only other fixed point is given by fragments from a necropolis whose stelai were destroyed and re-used in later graves. Buschor follows Böhlau² in believing that this must have happened in 525/4 B.C. on the occasion of the Spartan siege, but I should have thought the Spartans even less likely to have pillaged a Greek cemetery than to have destroyed a temple of Hera. This dating arose also from Böhlau's belief that the whole cemetery continued in use until the last decade of the century. The datable pottery from it, however, in the light of more recent studies, does not seem to be later than the middle of the sixth century, although I suspect that some of the East Greek vases, which cannot be closely dated on external evidence, may be a little later. There is nothing obviously of the last quarter of the sixth century.³ The stelai fragments which were re-used in the cemetery should antedate the latest graves, and are better then dated at the middle of the century or earlier. They include examples classed by Buschor as Polykratean because he thought they had been broken by the Spartans in 525/4 B.C. By dating this group a quarter of a century earlier we find their characteristic feature of alternate shallow convex and concave palmette leaves⁴ according well with the flutes on the column bases of the first dipteron, their contemporaries. It means that the occasion for the breaking of the stelai might well be around 540 B.C.; this date has been suggested above for the destruction of the first dipteron at the hands of the Persians who would be as casual with Greek graves as with Greek temples. It would also mean that Buschor's post-Polykratean stelai with their shallow concave palmette leaves⁵ would be the near contemporaries of the second dipteron bases whose flutes are so similar. Finally, this up-dating of the stelai would fill the 'gap' noted by Buschor in the 540s and early 530s. The gap appears now rather in the last quarter of the century, but is less alarming as there are at any rate but few late stelai, and Samos was in a very depressed condition at that time.

Samos may then give a number of invaluable pointers to the dating of sixth-century Ionic, but there is as yet nothing very exact, and much still of very debat-

¹ As K. Schefold, *Larisa am Hermos*, i, 148.

² *Aus ionischen und italischen Nekropolen* (1898), pp. 30-32.

³ R. M. Cook discusses the material in *B.S.A.* xxxiv (1933-4), 88 f. He points out one isolated find of a late vase. Grave 48 need not, I think, be later than the others.

⁴ *A.M.* lviii (1933), 31-34, Group IV, Beil. 11-13, 1. Like the alternate red and black palmette leaves in vase painting.

⁵ *Ibid.*, pp. 34-36, Group V, Beil. 13, 2-14. One such stele was in fact found in this cemetery, but not clearly re-used as the earlier had been (Böhlau, *op. cit.*, pl. 1, 1).

able value. It is possible, and to be hoped, that there is still some stratigraphical evidence to be found for the date of the temples.¹

NAUKRATIS

The earliest mouldings, perhaps from the temple of Apollo, have had an unhappy history.² Part of a volute was seen by Petrie but smashed before he could photograph it.³ The base was also destroyed but drawings were made from a 'good photograph' and one fragment of disc survives.⁴ The disc proportions, from their relationship to the Samian bases, suggest a date around the middle of the sixth century. The conical drum figured by Petrie at the base is suspect. The similarity to Samian mouldings of the Rhoikos temple, and, for instance, the presence in Samos of floral neckings⁵ like that found at Naukratis, make the vase dedication by a Rhoikos at Naukratis somewhat intriguing;⁶ particularly as its date, about the middle of the sixth century, is fully appropriate. It has also been suggested that it was in Naukratis that the Samian architect adopted the Egyptian stepped altar which became a regular feature of Ionian sanctuaries.⁷ The lotus decoration on the column necking has been dated a little before 550 B.C.; it is not unlike the lotuses on the Rhoikos altar, but neither is it, for that matter, so far from the lotuses on the Delphi treasuries. This is however not the only evidence for dating. The appearance of the full-blown eggs with tiny darts, and the echinus which is still very much of a 'Blattkranz', suggest that we are near the beginnings of Ionic, perhaps as near as the Naxian columns. Dinsmoor dates the temple back to the accession of Amasis (569/8 B.C.), but that king's relations with the Greeks at Naukratis are too obscure to give good grounds for dating structures there. He had little reason to be philhellene at the start of his reign.

Some later archaic mouldings are given to a second temple. These Dinsmoor dates around 520 B.C. on the strength of similarity to the Siphnian Treasury at Delphi and from the stratigraphy.⁸ The thin palmette leaves, beginning to point,

¹ M. Schede (*II. Bericht*, p. 8) mentioned Lakonian, Fikellura, and faience scraps in the destruction level of the earlier building but in no publication of the pottery from Samos have the sherds from this level been distinguished. Ohly's comment on figurines in the Altar fill (*A.M.* lxxv (1940), 66, 67 n. 1) suggests an early date. See also *A.M.* lv (1930), 50 f.; *A.A.* 1933, p. 252; 1937, p. 204; *A.M.* lxxii (1957), 49 f.

² The architectural fragments have been discussed by Dinsmoor (pp. 125 f.), F. N. Pryce (*B.M. Cat. Sculpture*, i. 1, 171 ff.), Weickert (*op. cit.*, pp. 86 ff.), and von Bissing (*Bull. Alex.* xxxix (1951), 67 ff.).

³ *Naukratis*, i, 13, pl. 3. So we are even at liberty to speculate whether it was not from an Aeolic capital.

⁴ *B.M. Cat. Sculpture*, i. 1, 172, B 391; see p. 184, n. 2.

⁵ O. Reuther, *op. cit.*, p. 52, fig. 7; *A.M.* lxxii (1957), Beil. 11, 2.

⁶ *Naukratis*, ii, 59, 65, no. 778; Hoffmann, *op. cit.*, pp. 193 f., pl. 59, fig. 14.

⁷ *Ibid.*, pp. 189 ff. The date of the altar of Aphrodite at Naukratis is so doubtful, however, that one might as easily suspect that it derives from the Samian Great Altar.

⁸ *Loc. cit.* (cf. *B.C.H.* xxxvii (1913), 13 n.; Weickert, *op. cit.*, p. 129). For the stratigraphy Dinsmoor follows Gjerstad (*Liverpool Annals*, xxi (1934), 67 ff.), whose brave attempt to resurrect the stratigraphy of Naukratis produces so many anomalies in pottery-dating that none of it can be trusted. See R. M. Cook in *J.H.S.* lvii (1937), 227 ff.; Gjerstad's answer to one point, in *Swedish Cyprus Expedition*, iv. 2, 321, n. 8, is rather weakened by his misquoting the number and therefore the date of the Rhitsona tomb with a Chian chalice in it.

and other decorative features, make these mouldings rather closer to our early fifth-century mouldings in Chios, whose date has already been discussed.¹ The Persian conquest of Egypt in 525 B.C. finished Tell Defenneh as a Greek settlement; Naukratis survived, but there is hardly any pottery there which need be dated to the last quarter of the sixth century, and very little Attic indeed; certainly not the flood of late black-figure which reached most Greek sites. So it seems likely that the Greeks there were enjoying a fairly thin time,² perhaps barely tolerated, and thus less likely to start building a new marble temple.

EPHESOS

Herodotos says that most of the columns of the Artemision at Ephesos were given by Kroisos (i, 92, 1). Whether he was told this or observed it himself we do not know. The only columns carrying inscriptions which are known record Kroisos' dedication, and if the others were not inscribed it would be easy to attribute to the only apparent donor the credit for all or most of them. What the remark and the inscriptions do prove is that the building was begun at least as early as the reign of Kroisos (about 560–547 B.C.).³ There are a number of indications that it took a long time to build. Pliny says that the Artemision took 120 years to complete (*Nat. Hist.* xxxvi, 14), and the excavators associated with his statement the record of a dedication of the temple about 430 B.C.⁴ Herodotos does not say that it was unfinished, but neither does he comment on the certainly unfinished state of the Samian Heraion. The sculptural members of the temple seem to range in date from the mid-sixth well into the fifth century, and include, with the latest, fragments of sculptured column bases.⁵ Most handbooks date the building to Kroisos' reign, though Dinsmoor admits the 'slow progress of the work'. Shoe dates all mouldings to 560 B.C., the earliest possible year for Kroisos' gift (the execution of which must have taken an appreciable time), partly because the first dipteron at Samos is assigned a date around 550 B.C. and the Artemision was thought from its mouldings to be an earlier structure. From consideration of the bases, which at Ephesos show a developed deviation from the Samian, this seems impossible. Shoe herself noted the excessive discrepancy in the Ephesos mouldings, which she attributed to an experimental stage;⁶ it may rather be a sign of the length of time that the building

¹ Von Bissing (*op. cit.*, p. 73) suggests that Darius' first visit to Egypt in 493 B.C. might be about the time of the construction of the second temple. The inscribed block which has been associated with this building (*B.M. Cat. Sculpture*, i, 1, B 427, p. 175, fig. 214) has letters which can hardly antedate the fifth century.

² D. G. Hogarth, *J.H.S.* xxv (1905), 109.

³ On this dating see H. Kaletsch, *Historia*, vii (1958), 39–47. The date 541 B.C., for the fall of Kroisos, has its champions.

⁴ D. G. Hogarth, *Ephesus*, pp. 5–7; F. N. Pryce, *B.M. Cat. Sculpture*, i, 1, 35 f.; C. Picard,

Éphèse et Claros, pp. 29 f.; Dinsmoor, p. 224. The building was spared by Xerxes (Strabo, p. 634).

⁵ G. Lippold, *Griechische Plastik*, p. 60; cf. A. Rumpf, *La Critica d'Arte*, xiv (1938), 45.

⁶ P. 6. Wood found a large abacus fragment (BM 73. 5–5. 111) which, from the style of the eggs, seems unlikely to belong to the fourth-century temple; yet the volute pattern at the abacus corner has acanthus elaboration which can hardly be earlier than the middle of the fifth century (cf. P. Jacobsthal, *Die Melischen Reliefs*, p. 13; Kleemann, p. 72).

took, and that minor mouldings (as on the abacus) carried contemporary rather than archaistic decoration. One might parallel the diversity of the columns in the Heraion at Olympia.

This being so the only pieces which we can with fair assurance ascribe to the reign of Kroisos are those which are inscribed with his name; the rest may be as early but could be over half a century later. The type of base preserved, with two deep scotiae and double astragal dividing, is a development from the Samian, and the only reasons for putting it earlier than those of the second dipteron at Samos lie in the proportions of the bases, and in the probability that out of so many fragments we must surely have some from the earliest stage of the building. Much of the torus fluting also displays the primitive variety of the first dipteron (and of the early tori from Phanai). Of the types of capital two only can be distinguished and restored with some degree of confidence. One has an ordinary volute with convex channels and no central eye; this does not seem to be a criterion of date.¹ A smaller capital of similar type may be a little later.² The other type of capital has a large rosette which replaces the volute entirely. If the long darts³ which run between the concave leaves of the rosette are significant they should go with the Samian stelai which Buschor calls post-Polykratean; the architectural contemporary of them is the second dipteron at Samos. This type of capital might also go back to the third quarter of the sixth century, but could be later according to the Samian architecture and stelai. The cushion sides for the capitals have deep scotiae and double astragals just like the base discs;⁴ these two features often correspond on the same column in other buildings at other dates.

The egg and dart mouldings include some with full-blown eggs and small darts, like Naukratis, others with narrower eggs and high darts, which need not be so early. The large bead and reel, again like Naukratis, should be considered earlier than the smaller, more canonic, type.⁵ All fragments of shafts have flutes with sharp arrises in the sixth-century manner. The elongated proportions of the Ephesos abaci have been considered a primitive feature. For capitals to carry sphinxes the sphinx determines the shape. On buildings the abacus' shape is determined by two factors, not necessarily interdependent: (i) the width depends on the proportions of the face of the capital and height of the column as much as on structural considerations; and (ii) the depth depends entirely on the structural demands of the entablature, which cannot be clearly envisaged at the Artemision. If the temple was hypaethral or had a flat roof the effect on the construction of the pteron is not easy to reconstruct in detail; it might well give occasion for proportionately narrower abaci. The Phanai capital has an abacus of very similar proportions, but can hardly be earlier than the last quarter of the sixth century.

¹ Absent on the Naxian columns and on later capitals from Samos and Didyma.

² Hogarth, *op. cit.*, p. 270, fig. 81.

³ Cf. too the corner palmette over the echinus on the same capital (Dinsmoor, pl. 30 *below*).

⁴ For a variant see W. R. Lethaby, *J.H.S.* xxxvii (1917), 10, fig. 9; Pryce, *op. cit.*, p. 44, B 65.

⁵ Contrast Dinsmoor, pl. 30 *top* and *bottom*.

ATHENS

A number of archaic capitals have been found, but none closely datable on non-architectural grounds except one (the Inwood capital) with an anthemion in the front of its cushion, dated to the second quarter of the fifth century.¹ The darts run high between the eggs, which are somewhat pointed, and the volutes have rosette eyes; the channels are convex. A capital from Jeraka in Attica² in what is said to be Naxian marble has convex channels on one side and concave on the other; it has no volute eyes and an unconventional moulding for the cushion sides.³ The appearance of the concave channels is a feature to be remarked on further below. The darts run quite high, and the early fifth-century date proposed by Möbius seems right.

Martin publishes a capital with convex channels from the Asklepieion, and traces the development of the later Ionic capitals in Athens, stressing its independence of Ionia or other parts of Greece.⁴ The capital has a simple cushion side (as had the Jeraka capital) of a type which must be considered incompatible with an Ephesian type of base. There is a clear fillet between the echinus and cushion, as at Delos, and the volute has an eye. He dates it around 450 B.C. There seems to be some family connexion between the capitals of Athens and the islands.

The fragment of an Aeolic capital from the Kerameikos is not, apparently, dated by its context.⁵ The type seems like that found at Neandria with the loosely rolled volute.

The most important evidence from Athens lies in the rich series of column dedications from the Acropolis which can be dated on epigraphical and often other grounds.⁶ These show that the Ionic type of capital with linked volutes does not appear in Athens until 530 B.C., and that when it does the volutes have eyes. Neither concave channels nor flutes with flat fillets between them occur before the fifth century.

The altar dedicated by the younger Peisistratos after his archonship might provide a valuable date for the type of leaf and dart which it carries, which still has

¹ P. Jacobsthal, *Greek Pins*, p. 67, fig. 283; cf. H. Möbius, *A.M.* lii (1927), 167 f., Beil. 19, 1. On the Attic capitals see Möbius, *op. cit.*, pp. 165 ff.; Züchner, *A.A.* 1936, pp. 327 ff.; H. Drerup, *A.A.* 1937, pp. 234 ff.; G. Bakalakis, *Ö.Jh.* xxxvi (1946), 57 ff.

² Möbius, *op. cit.*, pp. 167 ff., pl. 27 below.

³ An analogous moulding for the cushion side appears on a capital from Halikarnassos (W. Plommer in *B.S.A.* xlix (1955), 169-71, pl. 12 a-b). The tongue-like leaves restored on its echinus are strange; it is not clear whether there is evidence for their continuation right up to the cushion as they appear in the restored drawing. A plain member above shorter eggs would look happier and could be paralleled in the islands and Athens. If the tongues are correct the closest parallels appear in the west, on capitals at Gela (J. Durm,

op. cit., p. 302, fig. 279, 7; H. B. Walters, *B.M. Cat. Terracottas*, p. 164, fig. 40; *Monumenti Antichi*, xvii (1906), 737, fig. 558; and a sandstone capital recently excavated, *A.A.* 1954, pp. 647 f., fig. 102 and 657; P. Griffo, *Atti Acc. Agrigento*, 1953/4, pl. 8, 2; *A.J.A.* lviii (1954), pl. 89, 23—alleged to be the 'first of this order in Sicily'). The uncarved back to the capital is not unusual in this period. It appears on two Samian capitals (see above, p. 201, nn. 2, 3) and one Chian (above, no. 52, pl. xxviii d). The reason for it was no doubt economy; the volutes may have been painted. Eggs beneath volute cushions are sometimes not carved, as on the Propylaea at Athens.

⁴ *B.C.H.* lxviii/lxix (1944-5), 341 ff.

⁵ *A.A.* 1938, pp. 605 f., 601 f., fig. 16.

⁶ A. Raubitschek, *Bull. Inst. Bulg. xii* (1938), 132-81. If Raubitschek is right in suggesting that

a very archaic appearance. Although the monument might be datable on both historical and epigraphical grounds, dates from 522 to 497 B.C. are seriously proposed for it.¹

DELPHI

From Herodotos (iii, 57) a date of 525 B.C. or a little earlier can be deduced for the Siphnian Treasury. Some measure of agreement has now been reached on which mouldings in fact belong to this building, and these give significant illustration of lotus and palmette carving with full lotuses and plump rounded leaves, eggs beginning to narrow and point and the darts beginning to lengthen, leaf and dart midway to its classic form, and console sides moulded like the cushions of Ephesian capitals.²

A Chian moulding at Delphi is of particular relevance. It is the crown of the Great Altar given by the Chians to stand before the Temple of Apollo.³ The French dated its dedicatory inscription to the second quarter of the fifth century. Pomtow thought it might go back to the beginning of the century, and Shoe would like it to go back to the end of the sixth century because of the profile. Dinsmoor associated it with the Alkmaionid temple building (after 513 B.C.). The French dating may be rather low but the inscription would be unhappy in the sixth century. The Delphic attitude to the Ionic Revolt makes it unlikely that it was built by Chians during their brief freedom from Persia in 499-494 B.C., so a date after the end of the Persian Wars may be correct. The profile of the moulding is well matched in Chios on pieces best dated in the fifth century (see above on no. 23). On the colour contrast in the Altar see p. 187.

KYRENE

One of the rock-cut tombs in Kyrene has Ionic capitals of an early form on shafts with sharp arrises; the echinus has a double row of eggs. Comparisons with the Delphic treasuries have been made and a date as high as the middle of the sixth century proposed by Chamoux.⁴ It is tempting to see in this practice of cutting tomb façades in the rock the immediate influence of the Persians who overran Egypt and Kyrene in 525 B.C.⁵ They are certainly not known on any other Greek site so early, while they were already common in Anatolia and the Near East. The large,

his dedication no. 1 (*Dedications from the Athenian Acropolis*, pp. 5 f.) might belong with the poros capital figured by Wiegand in *Poros-Architektur*, p. 173, fig. 172 this will be the earliest Ionic capital in Athens (before 550 B.C.). However, its large eye, concave channels, and simple binding to the cushion sides indicate a far later date. It has nothing in common with the Naxian capitals which have concave channels and are early.

¹ For the moulding see C. Weickert, *Das lesbische Kymation*, pl. 3 a; Shoe, pl. xxvi, 2. For the dating, Raubitschek, *op. cit.*, pp. 449 f.; M. Guarducci, *Ann.*, n.s. iii-v (1941-3), 118-24; *Suppl. Epigr. Graecum*, x, 318; xii, 56. The earlier date seems generally now preferred.

² See especially de la Coste Messelière, *Au Musée de Delphes*, pp. 258 f. and fig. 12. A definitive publication of the building is being prepared.

³ *Fouilles de Delphes*, ii, 1, 119 ff.; J. Replat, *B.C.H.* xlv (1920), 328 ff.; Pomtow, *Real-Encyclopädie*, Suppl. v, 69-72; Shoe, p. 55.

⁴ In *Cyrène sous la Monarchie des Battiades*, pp. 291 f., pl. 7, 23. Detailed photographs are published by J. Cassels in *B.S. Rome* xxiii (1955), pl. 11 a-b.

⁵ Chamoux, *op. cit.*, pp. 160 ff., remarks on the prosperity of Kyrene under Battos IV (after 515-510 B.C.) and good relations with the Persians.

close-set volutes of the capitals and the carved cyma on the cornice certainly suggest at least the last quarter of the sixth century, if not later.

MILETOS AND DIDYMA

The earlier Athena temple on Kalabak-tepe at Miletos cannot be closely dated. The later temple below is post-Persian (494 B.C.) but unfortunately very little is preserved. The capitals had convex channels and Ephesian cushion sides.¹ An egg and dart moulding has narrow eggs which are slightly pointed, and high darts.

The altar of Poseidon on Cape Monodendri near Miletos has volutes at the corners with convex channels and no eyes, and a fine early ovolo with very small darts.² It also affords an early illustration of bold drafted margins in Greek masonry and of the use of clamps and dowels in construction.

Fragments of capital attributed to the Old Temple at Didyma (pre-Persian, so at least late sixth-century) have convex channels and Ephesian cushion sides with added palmette decoration.³ They may be as early as the Ephesos capitals. The fine early egg and dart from a terrace wall crown may belong to the same period.⁴ A later capital has no volute eyes, high darts between the eggs, and Ephesian cushion sides.⁵ Wiegand dates it after the Persian visitation, which is clearly right, despite the lack of volute eyes. It is close to the small capitals from Samos.⁶

Two types of anta capital were found at Didyma. One has convex channels to the side volutes.⁷ Wiegand, followed by Dinsmoor, dated it post-Persian on the strength of its completeness in comparison with the shattered pre-Persian fragments. Shoe and Weickert have it late sixth-century. The other type has concave channels to the side volutes.⁸ The publisher dates it post-Persian, with Dinsmoor, on the same grounds as for the other, and on the basis of the carved lotus and palmette decoration upon it rightly says that it can hardly be earlier than 450 B.C. Four capitals are involved, in Berlin, Smyrna, Istanbul, and Paris. From their mouldings and decoration Shoe dates that in Istanbul⁹ to the sixth and the others to the early fifth century. They clearly belong to one building group, and although the carving of the Istanbul capital is less incisive the four might well have been carved at one time, and that, from the palmettes, hardly in the sixth century. A Samos anta capital with very similar carved decoration cannot be far removed in date; Shoe dates its profile to the second half of the fifth century.¹⁰

¹ The reconstructed drawing in *Miler*, i, 8, 66, fig. 37 implies five scotiae in the cushion, an unlikely deviation from the usual four which does not seem to be justified by the remains.

² A. von Gerkan, *Milet*, i, 4. On its date see H. Hoffmann, *A.J.A.* lvii (1953), 189 f.

³ H. Knackfuss in T. Wiegand, *Didyma*, i, 124, pl. 212.

⁴ *Ibid.*, pp. 130 f., pls. 224-6, F 622-5.

⁵ *Ibid.*, pp. 147 f., pls. 210-11; cf. p. 148, pl. 213, F 723 a.

⁶ Weickert's suggestion that one capital might be from a Samian votive offering there is attractive (*Antike Architektur*, p. 64, fig. 35).

⁷ *Didyma*, i, 142 f., pls. 206, 208; Weickert, *op. cit.*, pp. 55-58, figs. 30-31; Dinsmoor, p. 133, n. 3; Shoe, p. 20.

⁸ *Didyma*, i, 143 f., pls. 207, 209; Weickert, *op. cit.*, pp. 51-55, figs. 27-29; Dinsmoor, p. 133, pl. 31; Shoe, p. 20.

⁹ F. Noack, *Die Baukunst des Altertums*, pl. 44.

¹⁰ Shoe, X, 6, pl. c, 6; cf. *A.M.* xxxvii (1912), pl. 15; lxxii (1957), 22 f., Beil. 25, 1, 3. Kleemann, p. 180, n. 255, discusses this, and the Didyma capitals. Buschor, *A.M.* lxxii (1957), 8, 18, has all the Didyma capitals sixth-century, admitting post-Persian replacement (p. 22).

Some important early mouldings from Myus (near Miletos) now in Berlin are barely published: a carved floral, an akroterion and a base disc;¹ the last two seem to be of the end of the sixth century.

OTHER EAST GREEK SITES

The excavation of the Aeolic site of 'Larisa' gave no clear indication of the dates of the late archaic buildings or the way in which the mouldings found might be distributed among them.² A capital with concave channels, volute eyes, and Ephesos-type cushion sides with palmette elaboration is dated to around 520 B.C., certainly too early;³ the palmettes suggest the second quarter of the fifth century. An anta capital with concave channels to the side volutes, which also carry palmettes, is dated c. 530 B.C., which seems also far out of place.⁴ Another is dated c. 510 B.C.,⁵ but the palmettes on it are of the angular fifth-century type and the capital itself is best paralleled by two from Emporio which certainly belong to a fifth-century temple. Wall-base mouldings have already been mentioned (above, p. 179). A carved sima fragment is rightly dated by its decoration to the second quarter of the fifth century.⁶ The terracotta friezes can be approximately dated by their figure style and give a fair indication of date for the leaf and dart patterns on some of them.

A fragmentary capital from Kyzikos⁷ has heavy double astragals dividing the bold convex channels of the volute.⁸ The volutes have eyes, so the capital can hardly be so early as to be associated with the famous Kyzikos chariot friezes.

The temple of Athena at Phokaia was destroyed by Harpagos in the late 540's. Recent excavation on the site may have revealed remains of the temple. Carved mouldings, if it had any, could afford more valuable evidence for early Ionic than does Ephesos. The site was not long abandoned, as architectural terracottas of the late sixth century are reported, and a capital of which a photograph has been published⁹ seems more likely to go with them than with the earlier temple.

On a capital from Halikarnassos see p. 206, n. 3. The capital from near Knidos illustrated in *B.S.A.* xlvii (1952), 178, fig. 4, pl. 38 *e* is of an unsuspected type. It seems to be from a pilaster and is the closest approach on a Greek site to the so-called proto-Ionic capitals from Cyprus, Syria, and Palestine. On these see below, p. 215.

KAVALLA (NEAPOLIS)

The most noteworthy feature of the Kavalla capitals is that their volutes have convex channels on one face and concave on the other.¹⁰ We have noted this already on a capital from Attica, which may be of island origin, and it is reported on an

¹ The floral, Dinsmoor, p. 140. The akroterion, Weickert, *op. cit.*, pp. 59 ff., fig. 34. The base, Shoe, pl. LXXI, 25; the bevelled edge should surely be at the bottom, not the top; cf. Samos.

² J. Böhlau, K. Schefold, and others, *Larisa am Hermos*, i.

³ *Ibid.*, pls. 20-21.

⁴ *Ibid.*, p. 125, fig. 21, pl. 22 *e-f*.

⁵ *Ibid.*, p. 123 f., pls. 23, 24 *a*.

⁶ *Ibid.*, pl. 22 *d*.

⁷ F. W. Hasluck, *B.S.A.* viii (1901-2), 195 f., pl. 6; G. Mendel, *Sculpture de Constantinople*, ii, 43 f., no. 285 (fig.).

⁸ Kontis is mistaken in thinking that the volute is a triple roll (*Ann.*, n.s. viii-x (1950), 30).

⁹ E. Akurgal, *Anatolia*, i (1956), pl. 3. For an earlier type of capital from the site see R. Martin, *Ét. d'Arch. Class.* i (1955-6), 121, 125.

¹⁰ G. Bakalakis, *A.E.* 1936, pp. 8 ff., figs. 10-27.

unpublished capital from Eretria.¹ Whether these are to be regarded as transitional to the regular classical Ionic volutes with deep concave channels is not clear. Certainly the mainland seems to have adopted concave channels for capitals sooner than Ionia. The only comparable piece from the east is Smyrna 712,² which has very shallow concave channels like the volute members of the stelai. The large carved rosette in the centre of the cushion of a Kavalla capital led Bakalakis to date it to the first quarter of the fifth century.³ It could well postdate the passage of the Persians through North Greece. The volutes have rosette eyes at the face, none at the rear; the cushion sides are of the Ephesian type, the eggs are pointed and the darts run high between them, rather like the moulding from the post-Persian Athena temple at Miletos. The capitals give a significant indication of the state of Ionic in the early fifth century. A fragment from Salonika seems to be of the same type.⁴

DELOS AND OTHER ISLANDS

A corner capital has been hesitatingly attributed to the *Porinos Naos* on Delos.⁵ That this must date to the Peisistratid purification of 540 B.C. is pure assumption. The plain fillet above the echinus on the capital is met again in Athens. The darts run high between the rather pointed eggs and the volutes have eyes. The links required to associate it with any fixed date (or even building) are too many and too weak to inspire confidence, but on general grounds of style one might well hesitate to assign it to the sixth century at all. Other early architectural members on the island have not yet been published.⁶

The Paros and Naxos temples are not dated on any external evidence.⁷

WESTERN GREEK⁸

A capital in Marseilles has been published by Benoit in *R.A.* xliii (1954), 17 ff. and dated little after 550 B.C. It has convex channels, volute eyes, and fairly rounded eggs. The palmettes over the echinus are called acanthus by Benoit for no good reason; the outline is already known at Ephesos.⁹ The concave leaves of the pal-

¹ H. Möbius, *A.M.* lii (1927), 170; Bakalakis, *op. cit.*, p. 17.

² There seems some confusion over this capital. Schefold quotes it as the earliest capital with *convex* channels known and says it is from Miletos (*Larisa am Hermos*, i, 147 f.; cf. R. Martin, *B.C.H.* lxxviii-lxix (1944-5), 362 f., n. 7). Mr. J. M. Cook has kindly supplied me with a photograph of the piece and tells me that it is from the 'Baths of Diana' near Smyrna.

³ *Op. cit.*, pp. 19-23. He thought early in that quarter, but the patterns on metalwork which are comparable go well into the fifth century; see P. Jacobsthal and A. Langsdorff, *Bronzeschnabelkannen*, pls. 29-32 *passim*.

⁴ Bakalakis, *op. cit.*, p. 17 n. 1, figs. 25-26.

⁵ *E.A. Délos*, xii, 210, fig. 264; G. Bakalakis,

Ö.Jh. xxxvi (1946), 55 f., figs. 1-2; R. Vallois, *L'Architecture hellénique*, i, 130; Dinsmoor, p. 133.

⁶ Cf. R. Martin, *B.C.H.* lxxviii-lxix (1944-5), 444 f.

⁷ The moulding in Oxford attributed to Paros by Dinsmoor (p. 133, n. 1) is not from the Arundel Collection, but from Smyrna and the gift of Mr. Hyde Clarke to the University in 1866. The provenance is probably trustworthy, as other Hyde Clarke marbles, mainly inscriptions, 'from Smyrna' are certainly Smyrnaean, and those 'from Ephesos' Ephesian. It cannot be far in date from the capital, Smyrna 712, see n. 2.

⁸ Cf. L. T. Shoe, *Western Greek Mouldings*; T. J. Dunbabin, *The Western Greeks*, pp. 280-4.

⁹ Cf. Dinsmoor, pl. 30 (the tips of the palmette are restored but there were clearly long darts between the leaves).

mettes and the long darts between them are a feature of Buschor's post-Polykratean stelai on Samos. Benoit's date for the Marseilles capital still seems very high. It might represent building inspired by the arrival of dispossessed Phokaiaians. The cushion sides have palmette and scroll relief decoration which is rare in the east (the second dipteron at Samos, and compare the palmettes in the scotiae at Didyma). It recurs in the west, for example at Syracuse.¹

Two capitals at Paestum from the inner columns of the 'Temple of Demeter' (now identified by Sestieri as the Temple of Athena) are preserved.² They have convex channels with large eyes, thin eggs with quite high darts between them. In this respect they lie stylistically between the Siphnian Treasury and the Kavalla capitals, and this is the usually accepted date for the Paestum temple. The shaft flutes have sharp arrises, which on an Ionic column point to the sixth century but in an otherwise Doric building, as here, need mean nothing. The cushion sides are unconventional.³ The lotus and palmette carved on the sima⁴ are a stage more developed than those of the Siphnian Treasury.

The Maraza temple at Locri⁵ is dated by its carved lotus and palmette decoration to around 450 B.C., and has various features which are archaizing by eastern standards, but apparently current practice in the west where an independent tradition had already developed. A 'sofa' capital from Megara Hyblaea which must antedate the destruction of the site in 483 B.C. shows palmettes beginning to lose their archaic roundness of outline.⁶

Other western capitals cannot be closely dated, and it is clear that the archaic style of volute with convex channels survived here even longer than it did in East Greece.⁷

CRETE

What seems to be the earliest monumental stone capital in Iron Age Greece was found built into a tomb at Afrati in Crete.⁸ All the vases from the tomb were not illustrated by the excavator,⁹ and from his description we cannot be sure how late in the seventh century the tomb may have been built. The 'palm' capital is of a type which is Egyptian in origin and had already been used in Bronze Age Greece;¹⁰

¹ Benoit, *op. cit.*, p. 37, fig. 15.

² Dinsmoor, p. 94; F. Krauss, *M.d.A.I.* i (1948), 11 ff.; Shoe, *op. cit.*, pp. 116, 158; *Fasti*, vii (1952), 126 f.; Benoit, *op. cit.*, pp. 21, 28, 34 f., figs. 13-14; P. C. Sestieri, *Il nuovo Museo di Paestum* (Itinerari dei Musei no. 89), p. 30 (fig.).

³ For the base see Krauss, *op. cit.*, p. 18 fig. 4. Torus to disc proportions of 1:3, and disc height to diameter of 1:5 are unusual.

⁴ F. Krauss, *Paestum*, pl. 37.

⁵ Dinsmoor, pp. 136-8, fig. 49; G. Säfslund, *Opusc. Arch.* ii (1941), 87, proposes a slightly earlier date. Shoe in *Western Greek Mouldings* dates members to the third quarter of the fifth century.

⁶ *Monumenti Antichi*, i (1890), pl. 2 bis; Dun-

babin, *op. cit.*, p. 297.

⁷ On survival see Möbius, *op. cit.*, p. 169; Benoit, *op. cit.*, p. 21.

⁸ D. Levi, *Ann.* x-xii (1927-9), 187, fig. 206, 451, fig. 586; G. Karo, *A.J.A.* xlv (1941), 93; R. Martin, *Ét. d'Arch. Class.* i (1955-6), p. 128.

⁹ Levi, *op. cit.*, pp. 184-6 and fig. 205 (which cannot be earlier than 650 B.C.). The incised 'abacus' from another tomb (*ibid.*, pp. 179, fig. 198 c, 451, fig. 586) which was associated with the capital by Levi recalls bases and slabs from Kourtes and Prinias in Crete (F. Halbherr, *A.J.A.* v (1901), 290, fig. 17, 400, fig. 11).

¹⁰ Cf. Dinsmoor, pl. 13 ('Treasury of Atreus'); *B.S.A.* xlix (1954), 241, pl. 40 c (Mycenae, ivory columns).

a fact which might possibly explain its early reappearance in Crete. It recurs sporadically in Greek architecture,¹ its final form being the 'Pergamene'.

The latest sculpture on a small temple at Prinias is of about the beginning of the sixth century.² Part of a stone volute found there has been reconstructed as an akroterion to the flat roof, but Weickert suggested that it might be from a capital.³ The scale seems against this but it is equally unhappy as an akroterion. Stone volutes of this type could hardly be earlier than the second quarter of the sixth century on other Greek sites. As an akroterion the closest parallel would be the volutes on the altar on Cape Monodendri near Miletos. The dating of the Prinias sculpture, even the most primitive parts, may need some revision.

Triple-roll bases for stone figures of birds from a temple at Amnisos recall Ionic anta capitals.⁴ The birds unfortunately give no secure indication of date.

Although Crete was able to boast a number of early architectural pieces she seems not to have played any decisive part in the development of the major architectural orders in Greece.⁵

From this brief survey emerge only a few reliable dates to help determine the development of Ionic architecture in its early years. Some there certainly are, and these can be used to guide although the appearance of a particular form on one site will not necessarily mean that the same was fashionable elsewhere. Regional traditions and preferences clearly play a large part. At the same time it can be seen that no very exact dates can be gained from detailed comparison of profiles. Miss Shoe's sequence of profiles cannot be considered chronologically rigid (as she admits), and we have noted various instances in which excavational or decorative evidence for dates are seriously at variance with the posited sequence. One of the consequences of this, especially for Chios, is that more architectural features may be found better dated in the fifth century than in the sixth. This seems true of other eastern sites and may help explain the illusory dearth of Asiatic Ionic in the fifth century which has been commented on more than once.

The minor arts can occasionally confirm dates for architectural features but this can be a dangerous criterion as setting, material, scale, and place of origin are all active factors.

IV. EARLY GREEK ARCHITECTURE AND THE EAST

The evolution of the Aeolic and Ionic orders of architecture is generally regarded as a late stage in the 'orientalizing' period of Greek art which began in the eighth century B.C.⁶ In architecture, as in the other crafts of ivory-carving, bronze-work,

¹ Dinsmoor, pp. 59 f., 140 (he calls the type Aeolic); Martin, *op. cit.*

² L. Pernier, *Ann. i* (1914), 18 ff.; on the date of the sculpture see G. Karo in *Greek Personality in Archaic Sculpture*, pp. 97 f.

³ *Typen*, pp. 58 f.; for the volute see Pernier, *op. cit.*, pp. 63 f., fig. 28; he answers Weickert in *A.J.A.* xxxviii (1934), 176.

⁴ S. Marinatos, *Kretika Chronika*, 1953,

pp. 258 ff., pl. 2 (perhaps the capital mentioned in *A.A.* 1933, 295; 1934, 246).

⁵ Cf. P. Demargne, *La Crète dédalique*, pp. 155-7.

⁶ There are good brief discussions in Dinsmoor, pp. 58 ff.; A. W. Lawrence, *Greek Architecture*, pp. 130 ff. See also H. Drerup, *M.d.A.I.* v (1952), 7 ff.; F. Krischen in *Antike und Abendland*, ii, 77 ff.; W. Andrae, *Die ionische Säule*, and in

and painting, the oriental elements in the Greek product can readily be distinguished, but has it generally proved difficult either to identify, or, if identified, to date and locate the oriental originals which are allegedly copied or adapted. The development within each craft—painting, sculpture, or architecture—is fairly easily determined in Greece, and once an oriental technique or motif was adopted its history within the Greek repertoire continued quite independently of its oriental counterpart.¹ It is the eastern prototypes which must be identified and dated before a true assessment can be made of the way the Greeks selected and remodelled the manifold influences of the older civilizations of the Near East which their own enterprise had reopened to them. This is not usually done, nor perhaps is it possible, and meanwhile the inexhaustible arts of the Levant provide a ready stream of comparanda with archaic Greek work. These sometimes impress; they do not convince unless their date can be determined and a plausible causal relationship with relevant Greek work can be demonstrated.² In some rare instances, particularly architectural, the parallels are more easily explained as the result of the return traffic of oriental motifs, recast and sometimes quite differently applied by the Greeks. Further, the debt of archaic Greece to its own Bronze Age cultures, themselves intermittently in touch with the Near East, has still to be properly evaluated.³ A tradition which included

Kleinasiens und Byzanz, pp. 1 ff.; R. Martin, *Études d'Arch. Class.*, i (1955-6), 128-31. A fragment of an Aeolic capital has now been found in Thasos, *B.C.H.* lxxx (1956), 421. Phrygia may yet prove the source of inspiration for some Greek architectural motifs although what has been so far found is too late to be relevant; cf. G. Körte, *Gordion*, pp. 110 f., figs. 87-89; C. H. E. Haspels, *Phrygie*, iii, 110, pl. 45 e; R. S. Young, *A.J.A.* lx (1956), pl. 85, fig. 18. Still less is known of Lydia but the use of swallow-tail clamps in the Tomb of Alyattes and the so-called Tomb of Tantalos (F. Miltner, *Ö.Jh.* xxvii (1932), Beibl. 153) is interesting, as are the mouldings on the latter monument (if they are not imaginary; see C. Texier, *Asie Mineure*, ii, pl. 130; Miltner, *op. cit.*, p. 151). The decoration of the Phrygian basis, *Anatolia*, iii (1958), pl. 1, is more probably Greek-inspired.

¹ Cf. H. Frankfort, *The Art and Architecture of the Ancient Orient*, p. 210: 'In the seventh century B.C. Greece was no longer avid for foreign goods; the oriental themes which had been borrowed in an earlier age had now been transformed into truly Greek designs.'

² Thus, palm-leaves between volutes on an ivory fly-whisk from Nimrud may, in a way, anticipate the Corinthian capitals of some 300 years later (R. D. Barnett, *Catalogue of the Nimrud Ivories*, p. 110), but there can be no causal relationship between what was an isolated motif in North

Syria in the eighth century, and an architectural member whose origins within the development of Greek decorative design are clear. If bell capitals with volutes and acanthus were attested in the Near East in the early fifth century it would be a different matter.

³ An apt illustration of the sort of problem involved is given by Barnett's comparison between the two-bodied, one-headed lion on a vase from Afrati in Crete and a rather similar creature on a gold plaque from the Ziwiye treasure (in *The Aegean and the Near East*, p. 232, pl. 21, 2-3; cf. also H. Frankfort, *Cylinder Seals*, p. 312). The Cretan monster is on a black-figured vase. Black-figure was learnt in Crete from Protocorinthian vases about the middle of the seventh century (H. Payne, *Necrocorinthia*, p. 51). A date for the vase earlier than the second half of the seventh century is not admissible on stylistic grounds. With the technique the Cretans copied also the repertoire of animals and monsters; so the artist of the vase in question may simply be reproducing what, on vases or other objects, was already familiar to him in Greek art. No immediate borrowing from the east need necessarily be deduced. What is to be sought is the immediate source for these monsters when they first appear in archaic Greek art of the seventh century. Various sources are possible, but I doubt whether the Assyro-Scythian art of the Ziwiye treasure (which on Barnett's own dating might be later than the Cretan vase; *Iraq*, xviii

the developed volutes which appear on Mycenaean ivories, and the finely carved mouldings from the Minoan palaces, might still prove to bear as much relevance to the Greek 'renaissance' as the work of contemporary eastern craftsmen.

The volute members which crown the columns of the Aeolic and Ionic orders clearly derive ultimately from Near Eastern floral motifs, the Tree of Life and the like.¹ These motifs were not unknown in Bronze Age Greece, and again, from the end of the eighth century, they were accepted within the repertoire of Greek artists. Thus, when they were applied by the Greeks to monumental architecture about a century later they presented nothing novel in the way of decoration. The application of these motifs to monumental architecture was, however, novel. It remains to see whether this novelty derived also from oriental inspiration.

Carved stone capitals resembling, even remotely, the Aeolic or Ionic are completely lacking in the Near East. Architectural elaboration took the form of surface decoration of walls or columns, but among the stone structural members² one rarely finds bases or capitals accentuated by individual carving or moulding; and these are in a manner quite unlike their Greek or, for that matter, their Egyptian counterparts.³ That volute capitals were, however, known in the Near East is shown by some representations of buildings on reliefs.⁴ Their originals may not have been of stone; at least there are no surviving stone capitals of this type in the east, and the representations seem to be of minor structures like pavilions, no doubt with wooden columns. Their two-layer volutes and the high members above them, which the Persians were to elaborate into animal protomes and which in no way recall Greek abaci, make it impossible to regard them as other than variants on the better-known floral capitals met in minor art (see below). It is certainly hard to see how a Greek, if he ever saw them, would derive an Aeolic or Ionic capital from them.⁵ Also, the Greeks used the column for aesthetic and structural purposes not

(1956), 116) need be one of them, despite the few Luristan-like objects found in Greece. But are we obliged to look to the east at all? 'Not through eastern windows only . . .'. The monster was already at home in Greece in the Late Bronze Age (e.g. *Palace of Minos*, iv, 585 f., figs. 575-7), and in view of the many certain revivals of Mycenaean forms and motifs in archaic Greece the possibility that this is to be added to them cannot be entirely ruled out. Finally we must dispel the suspicion that any artist who habitually draws heraldically opposed animals may be moved to economize in their heads of his own accord (cf. W. Deonna, *Rev. Arch.* xxxi (1930), 28 ff.).

This is a minor point picked out of an article full of important and significant speculation, but only from a detailed appraisal of the way in which oriental motifs were adopted by the Greeks can a true understanding of the Greek debt to the east be gained; and such an appraisal must go far beyond comparison of isolated motifs.

¹ Dinsmoor, *op. cit.*, and Lawrence, *op. cit.*

² Barnett (*Catalogue of the Nimrud Ivories*, p. 99) suggests that the Near Eastern 'recessed niches' afford a prototype for Greek door-mouldings and the Ionic architrave with triple fasciae. Both, when they appear in stone, reflect building techniques in other materials: the former, timber and brick; the latter, overlapping planks.

³ R. Naumann, *Jahrbuch für kleinasiatische Forschung*, ii (1953), 130-2; *Architektur Kleinasien*, pp. 138 ff.

⁴ *Arch. Kl.*, p. 143, fig. 162. There is a drawing of the Khorsabad relief in P. E. Botta, *Monuments de Ninève*, ii, pl. 114; a photograph in G. Loud, *Khorsabad*, i, 72, fig. 83. A photograph of the Nineveh relief in Frankfort, *The Art and Architecture of the Ancient Orient*, pl. 106 (top), and cf. Perrot-Chipiez, ii, 142 f., figs. 41-42. A different form on the Sippara tablet, Frankfort, *op. cit.*, pl. 121 (early ninth century B.C.).

⁵ On this basic structural difference see H. H. von der Osten in *Die Welt der Perser*, p. 75.

admitted in the east where no regular 'order' for capitals or bases was ever established, although here and there various minor decorative details were translated into stone.¹

The rock-cut tomb of Da-u-Dukhtar is often cited as an illustration of an oriental prototype for an Ionic capital, but the monument is undated and too much like later graecizing work to be convincing.² The capitals of the tomb and on the reliefs cited above would appear more convincing as Persian prototypes of the Ionic capital if such capitals were ever employed in any of the Achaemenid palaces, which they are not. In these palaces the returning influence of the already developed Greek ideas about monumental architecture is apparent. To this we shall return.

'Proto-Ionic' (better, 'Proto-Aeolic') capitals from the Cyprus-Syria-Palestine area³ and dating from the tenth to the sixth centuries B.C. are often cited as prototypes for Greek Aeolic. They do not seem strictly relevant. First, their volutes spring from a central triangular member which never appears on Greek Aeolic, in which they spring straight from the shaft. It is the volute type which appears also on the Syro-Phoenician ivories and, earlier, on Mycenaean Greek ivories.⁴ Secondly, they lack the girdle of pendent leaves which is found on all the early Greek capitals. Thirdly, none of them stands on a cylindrical column shaft but all are carved in relief on pilasters, stelai, or door-jambs; thus the capitals are decorative only, not structural members. Finally, far closer parallels for the Aeolic capital are afforded in both Near Eastern and Greek archaic art. These may now be considered.

Although stone volute capitals with girdles of pendent leaves below them have not yet been found in Near Eastern buildings, the type is not uncommon in minor works from that area. Their volutes are generally not so tightly rolled, and are more like the palm from which they derive. Thus, they appear often in furniture: both bronze originals and stone relief representations. And they serve as 'baluster' capitals in the ivory 'women-at-the-window' reliefs from Nimrud and other sites.⁵ In this role the Greeks met the motif early in the seventh century, if not earlier,

¹ In Egypt something like regular architectural 'orders' were more familiar. Greek monumental sculpture in the seventh century was no doubt inspired by contact with Egypt (certainly not with the east), and it may be that the same source supplied the inspiration for 'orders' in Greek monumental architecture, although not for all the motifs employed, which, in Ionic, were derived from an existing Greek orientalizing repertoire.

² E. Herzfeld, *Iran in the Ancient East*, p. 207, fig. 137 (a drawing, apparently inaccurate); *Archaeological History of Iran*, pp. 32, 37, pl. 5 (a photograph); R. Ghirshman, *Iran* (Penguin Books), p. 124, fig. 50 (a poor drawing); von der Osten, *op. cit.*, p. 75, pl. 38 (a good photograph); L. van den Berghe, *Archéologie de l'Iran ancien*, pl. 86 b (a good photograph). Cf. Frankfort, *op. cit.*, p. 265, n. 64; R. D. Barnett, *Iraq*, xix (1957), 75. The large, close-set volutes remind one of Greek

fifth-century capitals with their volutes inside the lines of the column shafts.

³ e.g. R. Naumann, *Architektur Kleinasiens*, p. 143, fig. 158. For the most recently found example (from Ramath Rahel in Judah), and references to Palestinian examples see Y. Aharoni, *Israel Expl. Journ.* vi (1956), 141 f., pl. 27 b. Some antecedents are discussed by R. M. Engberg in H. G. May, *Material Remains of the Megiddo Cult*, pp. 39-42 (and see pls. 10, 11, 13). New examples from Hazor are carved on both sides and stood on rectangular pillars, *Israel Expl. Journ.* ix (1959), 79, pl. 9 A, B.

⁴ e.g. A. J. Evans, *The Prehistoric Tombs of Knossos*, p. 64, fig. 69; P. Demargne, *La Crète dédalique*, pl. 1.

⁵ Cf. R. D. Barnett, *Catalogue of the Nimrud Ivories*, pp. 107-10; Frankfort, *op. cit.*, pl. 170 b; Naumann, *op. cit.*, pp. 143 f., fig. 159.

either in its homeland or on imported objects like ivories. It was a comparatively simple matter for them to increase the scale and convert the motif for use in monumental stone architecture by the end of the seventh century. The east had developed the motif and its use as a supporting member; the Greeks applied it monumentally in the form to which they had already adapted it, and not in the usual eastern form.

It seems then that the Aeolic and Ionic capitals derive from more than a simple copying of eastern practice. They are no less a Greek invention for the existence of comparable forms in minor decorative works in the Near East, because stone architectural forms of this type are quite unknown there and the decorative motifs had already long been accepted into the Greek artist's repertoire. Only with an understanding both of the precise nature, in time and place, of the oriental inspiration, and of the processes of the Greek adaptation and refashioning can either the extent of the Greek debt to foreign influence or the fruits of their own invention be properly assessed. This is true not only of the early stages of monumental architecture in Greece but of any other of the 'orientalizing' innovations in Greek art, thought, and literature of the archaic period.¹

By the time that the first Achaemenid palaces were being constructed the Ionic order, and its most important mouldings, had already been evolved in East Greece or the islands, and at least one truly monumental building conceived and completed on Samos. In the early period of experiment the fortunes of the Ionian states were closely linked to those of the kingdom of Lydia, whose king, Kroisos, himself contributed to the ambitious architectural undertaking at Ephesos. When, in the 540s, Kroisos fell and the Persians reached the Aegean, they attacked some of the Ionian states and received their submission, so that in the succeeding generation the architectural activities of the Ionians lay under the eyes of the Persians. They also opened for the Greeks a far wider field for trade, and the influence of Greek art in the Achaemenid palaces becomes immediately evident. In architecture this was manifest in features which were themselves oriental in origin, but whose immediate antecedents and inspiration are Greek alone. In other details the purely Hellenic character is more apparent.²

The measure of Greek influence in the east can be judged from a brief review of some Ionic architectural traits in the Achaemenid buildings. We may start with Pasargadae. Here were found column bases of an ordinary Ionic torus on a square plinth.³ The tori are horizontally fluted, and the flutes are divided by flat fillets. Above is a simple astragal and unfluted column shaft. It is by no means certain that all the architectural features of Pasargadae are to be dated to the reign of Cyrus

¹ T. J. Dunbabin in *The Greeks and their Eastern Neighbours* (J.H.S. Suppl. Paper no. 8), especially chapters 3-5, gives some well-chosen examples of these processes of borrowing and adaptation.

² As in sculpture, with the naturalistic rendering of drapery folds. This appears early in the sixth century in Greece where it is a logical step forward in the Greek artist's growing command of realism. Nothing in the rather stereotyped Near Eastern sculpture of the seventh century hints at the pos-

sibility of such an advance; there the representation of human beings changes little, though there is fine relief sculpture of animals. Cf. K. Erdmann, *Forschungen und Fortschritte*, xxxvi (1950), 150-2; Frankfort, *op. cit.*, pp. 225 ff.; Barnett, *Iraq*, xii (1957), 75, has doubts.

³ *Archaeologische Mitteilungen aus Iran*, i (1929-30), pl. 2; E. F. Schmidt, *Persepolis*, i, 14, fig. 8 b.

(559–29 B.C.), any more than all the relief sculpture there can be,¹ although it was the site of his palace. If they were, we might be surprised to find such a developed torus-fluting so early and so far from Ionia. However, for the last part of his reign much of Ionia belonged to Cyrus and he could well have employed artisans from the workshops of the great Ionian temples at Samos and Ephesos. There seem no grounds whatever for connecting the Pasargadae tori with earlier intimations of torus-bases found in Anatolia and North Syria.² Also at Pasargadae a deliberate colour contrast in the building material was sought after.³ This we have already noted in Ionia at Old Smyrna, and more than once on Chian buildings. As with the torus-bases there are no grounds for associating this contrast on the Persian buildings with the earlier North Syrian or Urartian practice,⁴ where the contrast was a matter of alternate slabs in a frieze or courses in a wall, and not between individual structural members.

The Tomb of Cyrus at Pasargadae presents one or two relevant features.⁵ The column bases of the colonnade around it need not be contemporary,⁶ but must be quite early (by Ionic standards), for their plumpness and their shallow flutes with sharp arrises. The mouldings for wall-crown and socle on the tomb itself⁷ are of the plain cyma reversa type found on the altars at Phanai and Emporio and on the Chian Great Altar at Delphi, and often elsewhere. It has no eastern antecedents.⁸

There is specific reference in Darius' famous inscription to the employment of Ionian masons at Susa,⁹ but there is nothing in the buildings there not equally well represented by Persepolis, which is the richer and better published site. There the tori of the column bases are not fluted, and they sit on inverted bell-shaped members¹⁰ which are carved with adapted Ionic motifs—tongues and darts, leaves, palmettes, etc.—Ionic, that is, in their form, not their ultimate inspiration. The column shafts have flutes with sharp arrises, following the earlier Ionic practice which seems to have been generally abandoned in Greece before the Persepolis buildings (most are of Xerxes' reign, 486–465/4 B.C.). The volute members of the capitals may owe something to Ionic anta capitals, but the type is met in minor art in the Near East,¹¹ and is one not well suited to enlargement in monumental architecture. The large rosettes in the eyes of the volutes are simply an exaggeration of the common Ionic practice, and not to be interpreted as copies of the Ephesos capitals in which a rosette

¹ Cf. Erdmann, *op. cit.*

² See p. 183, n. 4; Sinjirli.

³ Schmidt, *op. cit.*, p. 22; Frankfort, *op. cit.*, p. 217.

⁴ See p. 187; for Urartu see E. Herzfeld, *Archaeological History of Iran*, p. 17; R. D. Barnett, *Iraq*, xix (1957), 74. Contrasting relief slabs at Tell Halaf and Carchemish, cf. Naumann, *op. cit.*, p. 82. Polychrome rubble at Gordion: *A.J.A.* lx (1956), 260.

⁵ E. Herzfeld, *Iranische Felsreliefs*, pp. 166 ff.; F. Krischen, *Weltwunder der Baukunst in Babylonien und Ionien*, pp. 67–71, figs. 29–30, pl. 21; H. H. von der Osten, *Die Welt der Perser*, pl. 40 (good photograph).

⁶ The colonnade itself was constructed in the thirteenth century A.D. with columns removed from other sites; see E. Herzfeld, *Archaeologische Mitteilungen aus Iran*, i (1929–30), 8.

⁷ E. Herzfeld, *Iranische Felsreliefs*, p. 171, fig. 82.

⁸ It may be anticipated in Minoan Crete; cf. A. J. Evans, *Palace of Minos*, iv, 73, fig. 46 (another fragment in Oxford: 1938.416).

⁹ G. M. A. Richter, *A.J.A.* l (1946), 25; Schmidt, *op. cit.*, p. 30.

¹⁰ Compare the bases of the Athenian Stoa at Delphi, Amandry, *op. cit.*, p. 96, pl. 24.

¹¹ Frankfort, *op. cit.*, p. 224 and note 70.

apparently could replace the volute twist. It is rather an imitation of applied metal decoration,¹ as are the rosette friezes which accompany the Persepolis reliefs and are readily paralleled on Assyrian reliefs. The channels are concave and the cushion sides a simplification of the Ephesian type with none of its plasticity and swinging curves. Bead and reel appears on capitals and gateways, but although the motif in stone architecture is Greek its particular use here is not.² Many other architectural features are more clearly Egyptian in inspiration, though in adaptation and execution they are made to suit the Greek members rather than vice versa.

To end, as we began, with Chios, there is a feature in the sanctuary architecture at Phanai which seems to appear on no other Greek sites and which most probably represents an isolated oriental practice copied some time before the first of the Achaemenid palaces. This is the double, opposed stairway ('Palladian') which gives access to the temple platform. One was built about 600 B.C. and another less than a century later.³ The type has a long history in the east, from Sumerian Uruk to the Assyrian palace at Khorsabad, and ultimately the Achaemenid palaces.⁴

¹ H. Drerup, *M.d.A.I.* v (1952), 13 ff.

² Cf. Erdmann, *op. cit.*, p. 152 f., speaking of the relief sculpture: 'Wie das auch in folgenden Jahrhunderten so häufig der Fall ist, entlehnt der Orient nur die Form, nicht das Wesen.'

³ Lamb, pls. 27, 29.

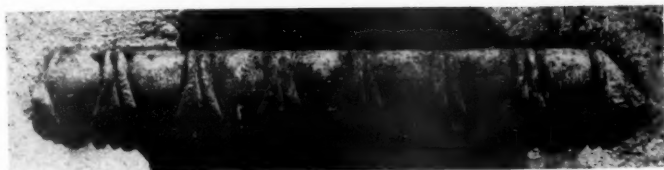
⁴ Cf. A. Gersbach, *Geschichte des Treppenbaus* (1917), *passim*. When I prompted Mr. Barnett's remark on this architectural feature (*Iraq*, xix (1957), 77, n. 1) we had both overlooked its long earlier history; the Karangun stairway, there cited, is not so nearly relevant.



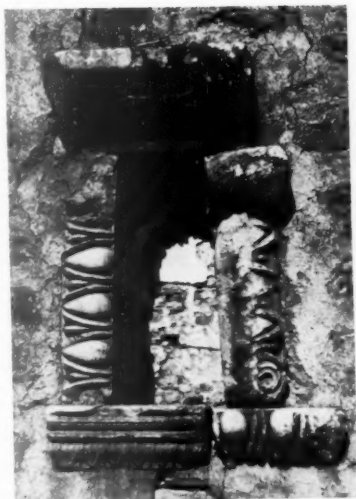
a. No. 15, moulding at Phanai



b. No. 14, moulding at Phanai



c. No. 27, moulding at Managros



d. Nos. 25 and 28, mouldings at Managros



e. No. 32, column drum in A. Marina

Architectural mouldings from Phanai

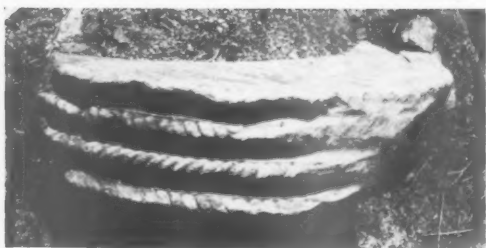


a



b

No. 29, fragment of a capital at Phanai



c. No. 36, column base at Managros



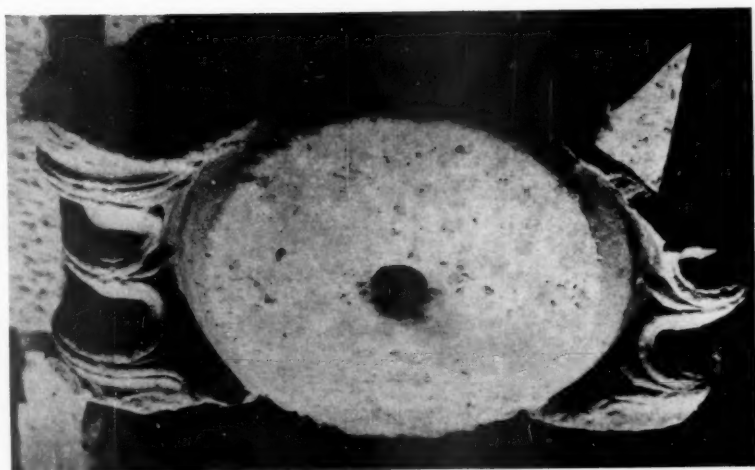
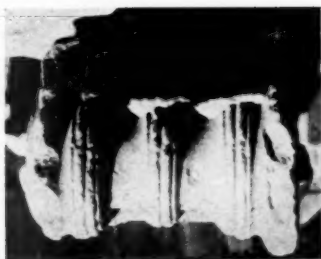
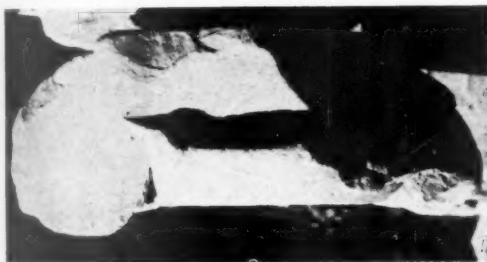
d. No. 30, fragment of a capital at A. Marina



e. No. 44, Pegasus protome from Phanai,
Chios Museum 250



f. No. 49, moulding, Chios Museum 191



No. 52, capital in Chios Museum



a. **B**, moulding from Emporio, Chios Museum



b. No. 18, Gorgoneion fragment from Phanai, Chios Museum



c. No. 17: **C**, moulding from Managros, Chios Museum 287



d. No. 19: **D**, moulding from Managros, Chios Museum 288



e. No. 20: **E**, moulding from Managros, Chios Museum 289



a. No. 21: **F**, moulding at Kastri



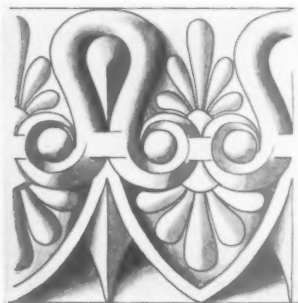
b. **G**, moulding from Emporio, Chios Museum



c. **J**, moulding near Emporio



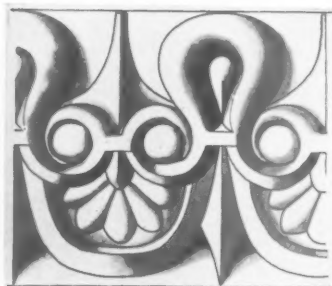
d. **K**, moulding, Chios Museum



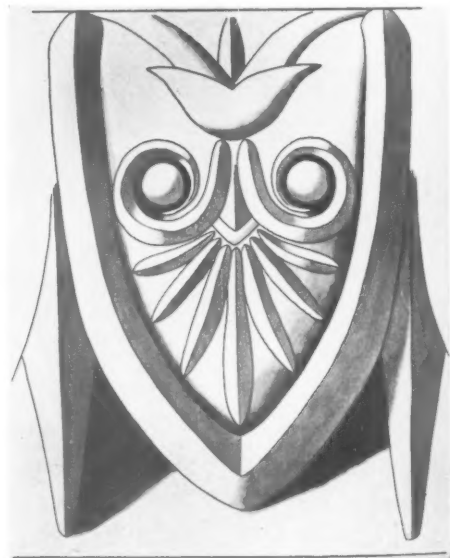
a. No. 16: A



c. No. 17: C



b. B



d. No. 19: D

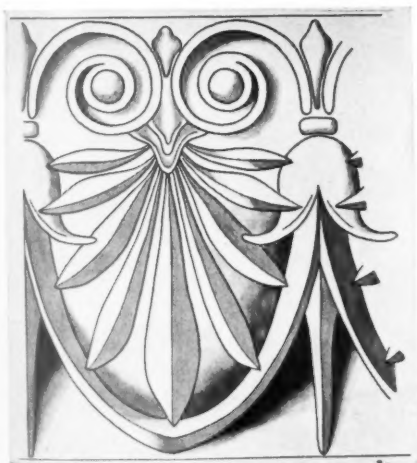
Developed drawings of ornate mouldings



a. No. 20: E



b. G



c. J



d. K

Developed drawings of ornate mouldings



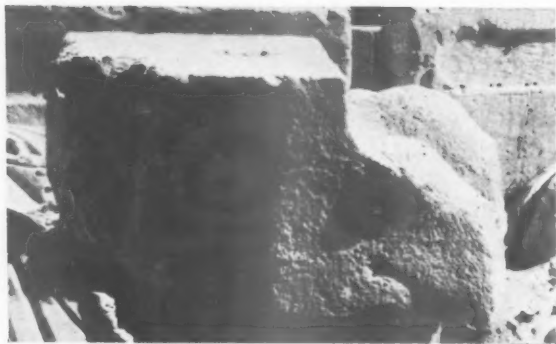
a. At Emporio



b. In Chios town



c. In Chios Museum

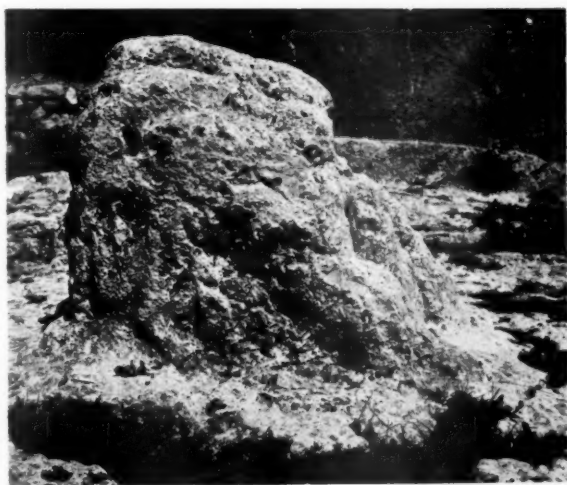


d. Chios Museum 2038

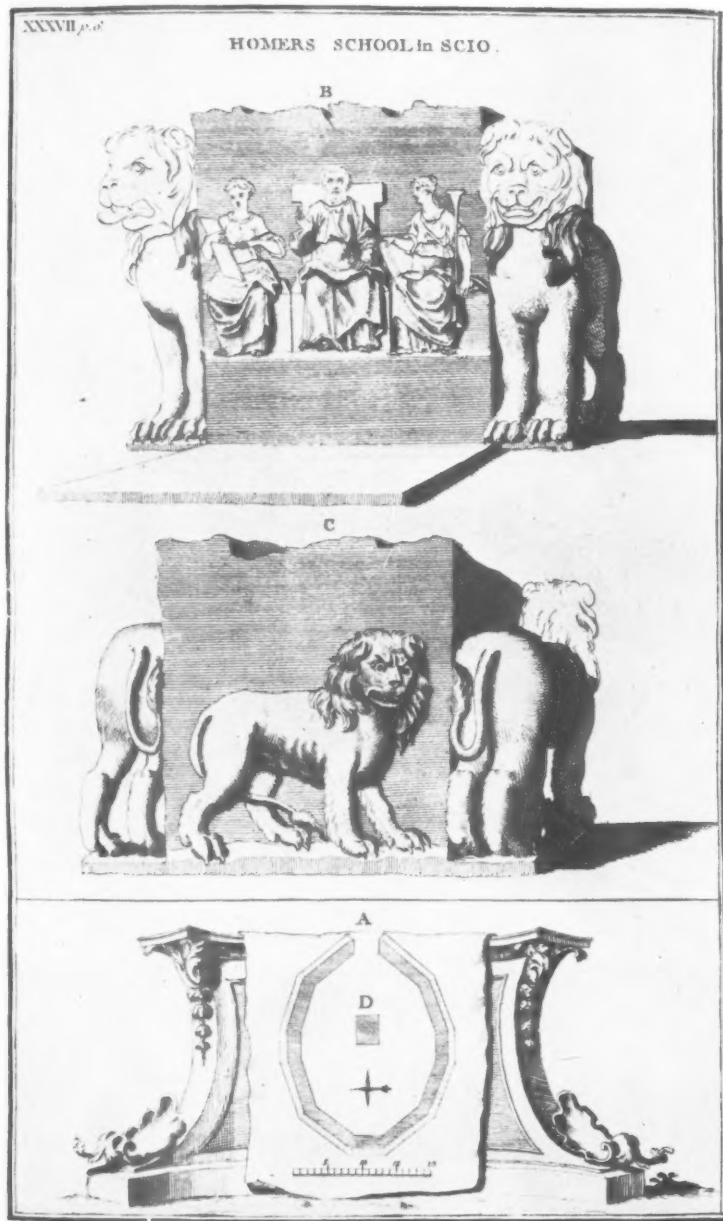


e. In Chios town

Lion's-paw bases



Daskalopetra



Daskalopetra. 'Homers School in Scio', after R. Pococke, *A Description of the East*, ii, 2, pl. 37

THE TWELFTH-CENTURY CASTLE AT ASCOT DOILLY, OXFORDSHIRE: ITS HISTORY AND EXCAVATION¹

By E. M. JOPE, F.S.A. and R. I. THRELFALL, F.S.A.

SUMMARY

THE castle of Ascot Doilly appears from documentary sources to have been put up c. 1129-50. Excavation in 1946-7 of a small mound on this manorial site showed that it had contained a stone tower 35 ft. square which had been built up from the natural surface of a 4-ft. rise of Lias clay protruding through the gravel of the Evenlode valley bottom. Round this tower, as it was raised, had been piled a low mound of clay; thus the impression of a tower on a mound was created. Beside it are remains of a bailey and contemporary paddocks. The tower had been deliberately demolished, probably c. 1180.

The excavation thus revealed a new principle in smaller defensive building of the period, a mound piled round a stone tower. It also yielded a useful series of mid- to later twelfth-century pottery and other objects, and evidence of domestic window glass in the twelfth century.

There are remains of thirteenth-century and later buildings in the bailey area. The village of Ascot represents a dual holding, with two mound-and-bailey castles at opposite ends 800 yds. apart, and between them the church (with twelfth-century work). There is also evidence of pottery-making in the village, at least in the early thirteenth century.

INTRODUCTION

This small mound² stands in the orchard to the east of Ascot Doilly manor house in the Evenlode valley bottom, 5 miles west of Charlbury, Oxfordshire. It was chosen for first attention in the programme for post-war medieval excavations in the Oxford region because the documentary evidence suggested that this was the site of the Doilly castle with a restricted occupation period in the mid- to later twelfth century.³ A fuller understanding of the original nature of such small motte-like structures was much needed, as well as pottery datable to this period. This excavation provided both. The presence of a stone tower hidden in an inconspicuous mound increases the possible significance of small mounds in Norman

¹ A paper was read to the Society on 27th Nov. 1947, and is summarized in *Oxoniensia*, xi-xii (1946-7), 165-7. The work is also referred to in *Archaeol. J.* cvii (1952), 42.

² Grid ref. 302190.

³ F. M. Stenton, *First Hundred Years of English Feudalism* (1932), pp. 194-5, cites it as an example of a twelfth-century castle known from documentary sources but of which no obvious traces remain on

the ground at the present day. We first observed it from the train; it is noted in *V.C.H. Oxon.* ii (1907), 321-2. His other example at Oversley, Warws., has since been traced from the air (*Trans. Birmingham Archaeol. Soc.* lx (1938), 145, pl. xiii; *ibid.*, lxxvii (1951), 17-18). This Ascot Doilly castle should be added to R. A. Brown's 'List of castles, 1154-1216' in *Eng. Hist. Rev.* lxxiv (1959), 261.

feudal geography. The work also provides an example of the interlocking of archaeological and documentary data.

The excavation continued for 2 weeks in July 1946¹ and other work has been done at intervals since.

HISTORICAL

Ascot is not mentioned in written sources before the Domesday Survey, where by 1066 (T.R.E.) it appears as a flourishing vill of 10½ hides. There are no Saxon charters extant which deal with this area,² so that the earlier history of Ascot cannot be worked out. But the name, *est-cote*, suggests that it had been taken out of the adjacent royal estate of Shipton, 1 mile to the west. The element *cote* is not in general an early one in English place-names,³ but the duality and size of the holdings by 1066 suggests a settlement at least several generations old. Though no characteristic late Saxon pottery has yet been recognized among the material from this village, it is now clear that much of the pottery in use through the eleventh century (and perhaps earlier) is not sharply distinguishable from that of the twelfth century.⁴ No archaeological finds suggest any pagan Saxon settlement here.⁵

The vill of 10½ hides was entered in the Domesday Survey as two holdings. One of 4½ hides was held of Odo, bishop of Bayeux, the Conqueror's half-brother, by Ilbert de Lacy; the other of 6 hides was held of Robert d'Oilli,⁶ by one Roger. These two holdings of Domesday have persisted ever since and survive as the contiguous settlements of Ascot Earl⁷ and Ascot Doilly, making up the present village of Ascot-under-Wychwood.

This Roger was probably Roger d'Ivri, the 'sworn brother' of Robert d'Oilli,⁸ each held lands of the other. Both Ascot and Kencot, the next Domesday entry,

¹ In this work we have received much help. Our first debt is to Mr. Oliver Watney, the landowner, for allowing the excavation, and particularly to Mr. and Mrs. R. A. B. Shaw, the occupants of the manor, for their great kindness throughout this work. The excavation was carried out initially by us, with Mrs. Margaret Jope (who has reported on the fauna), Dr. Eric Gee, and Dr. Hans Hoch. Many residents of Ascot have helped us. In particular Mr. Reginald Edginton has maintained and stimulated interest for many years, and the knowledge of the village archaeology is largely due to his observations. We should also like to thank Mr. Desmond Pratley, Mr. and Mrs. John Sampson, Mr. and Mrs. Morris, and two successive vicars. We should also like to thank for their help and interest Dr. D. B. Harden, the late Mr. B. H. St. J. O'Neil, Mr. G. C. Dunning, Mr. P. S. Spokes, Mr. W. A. Pantin, Mr. Brian Hope-Taylor, Mr. H. M. Colvin, Mr. D. M. Waterman, and Mrs. M. E. Cox for her kindness in completing several pottery drawings. This Society provided a generous grant of £50 and much assistance has

been received from the Ashmolean Museum.

² Shipton-under-Wychwood is merely named, *Siptone* (= sheep-tun), in a charter of A.D. 777 (Birch, *Cart. Sax.*, no. 222).

³ *Eng. Place-Name Soc.* xxv (1956), 109.

⁴ *Oxoniensia*, xvii-xviii (1953-4).

⁵ Mr. Reginald Edginton has recently observed and partly explored the site of a Roman house on the slope to the north of the River Evenlode, Nat. Grid ref. 296193. This may have been the source of the few fragments of Roman material found in the castle excavations.

⁶ DB, fols. 156b, 158b; *V.C.H. Oxon.* i, 407, 414.

⁷ This suffix seems to be derived from the le Despencers, earls of Winchester (*Eng. Place-Name Soc. Oxfordshire* (1954), p. 336).

⁸ A tradition preserved in a thirteenth-century part of the Osney Cartulary (iv, 1): 'fratres iurati & per fidem & sacramentum confederati...'. They were jointly associated in the founding of St. George's chapel within the castle of Oxford; F. M. Stenton, in *V.C.H. Oxon.* i, 383.

held by 'the same Roger', were from the twelfth century onwards possessions of the Roger d'Oilli line.¹ But a writ of William Rufus, of 1093-1100,² shows that the Ascot lands were then not in the hands of a Roger, and this break in continuity leaves no grounds for suggesting that this Domesday Roger was the Roger d'Oilli who held lands of Osbern fitz-Richard in Naunton, Glos., and who was probably the ancestor of the Roger d'Oilli line.³

This writ of 1093-1100 reveals a curious and complicated situation. The Ascot estate had passed to the bishop of Lincoln; presumably this was by a gift of Robert d'Oilli, which he might have made when Roger d'Ivri forfeited his possessions and went into exile during William II's reign.⁴ Successive life holdings had been granted by the bishop to Guy and then to Nigel, brothers of Robert d'Oilli. On the death of the second holder Nigel⁵ the lands should have reverted to the bishop 'free from all claims on the part of any heir or any men who may have Nigel's land'. In fact, by the later 1120's the land is found forming part of the fee⁶ of Nigel's son Robert d'Oilli II, and the bishop's rights seem forgotten.⁷

It seems that Robert d'Oilli I gave the tithes of his Ascot manor to his foundation of St. George's within Oxford Castle,⁸ the possessions of which passed to Oseney Abbey in 1149. Robert d'Oilli II, however, gave two parts of these same tithes to St. Frideswide's a little before 1130.⁹ The duplication in these gifts led to Oseney instituting a law-suit against St. Frideswide's, which was settled in 1162-6 by St. Frideswide's agreeing to pay Oseney 2s. 6d. per year.¹⁰

The lordship of the d'Oilli manor at Ascot passed as part of the d'Oilli fee to Robert's heirs, through whom it came ultimately in the thirteenth century to the Plessis Earls of Warwick.¹¹ The principal branch of the d'Oilli family, represented by Robert d'Oilli II and his descendants (table 1), do not appear, however, to have been in possession of Ascot at any time from the later 1120's onwards. The papal

¹ Ascot: H. E. Salter, *Facsimiles of Oxford Charters* (1929), no. 58, etc., Kencot: *Cart. Oseney*, iv (Oxf. Hist. Soc. 1934), 502; *Hundred Rolls* (Rec. Comm. 1818), ii, 699; cf. also Bampton Aston, DB, fol. 158b, and *Cart. Eynsham*, i (Oxf. Hist. Soc. 1906-7), 73, n. 3.

² *Registrum Antiquissimum* (Lincoln Rec. Soc. xxvii (1931)), pp. 13-14, no. 6).

³ DB, fol. 168b. *Cart. Eynsham*, i, no. 45, '... Newentone, quod est de feodo Rogeri de Oilli ...' (1148-61); see also *ibid.*, nos. 72, 73.

⁴ *V.C.H. Oxon.* i, 383, n. 1.

⁵ Nigel was still living in 1115 (*Chron. Mon. Abingdon*, ii (Rolls Ser. 1887), 63) and the wording of the *Pipe Roll 31 Henry I* (p. 139 (under the Honour of Wallingford)), 'Et idem Brienti debet clxvj li. xiiij s. iiiiij d. pro ministro parte terre Nigeli de Oilli', suggests he had not been dead all that long in 1130. For Brientius see also *Chron. Mon. Abingdon*, ii (Rolls Ser.), 109, 111.

⁶ Ascot d'Oilli is described frequently as 'Estcote de feodo quod pertinet ad castellum Oxonie'

(Salter, *Facs. Oxf. Charters*, no. 58; *Cart. St. Frideswide's*, iv, no. 1012 = *Cart. Oseney*, iv, 528; etc.).

⁷ Unless they are reflected in the 1 knight's fee held in Ascot of the bishop of Lincoln, in *Inq. P.M. 12 Edward III*, no. 154. Mr. H. M. Colvin has discussed the complexities which may lie concealed behind grants of this kind. His main example of Holme Lacy, Herefordshire, has some features in common with this at Ascot (in *Essays presented to Rose Graham*, ed. A. J. Taylor).

⁸ This is shown by Henry I's confirmation charter to Oseney (H. E. Salter, *Facsimiles of Oxford Charters* (1929), no. 58; 1123-33, probably 1127).

⁹ *Cart. St. Frideswide's*, ii (Oxf. Hist. Soc. 1896), no. 951; see also i, no. 8.

¹⁰ *Cart. St. Frideswide's*, ii, no. 1012; *Cart. Oseney*, iv, 528.

¹¹ See table 1 for descent of main line of the d'Oillis.



Based on the Ordnance Survey 1:25000 map sheets xx.14 and xxv.2 by permission

FIG. 1. General plan of the village of Ascot-under-Wychwood, showing sites of the castles of Ascot Doilly and Ascot Earl, and of the finds of twelfth- to thirteenth-century pottery, and of medieval closes. The

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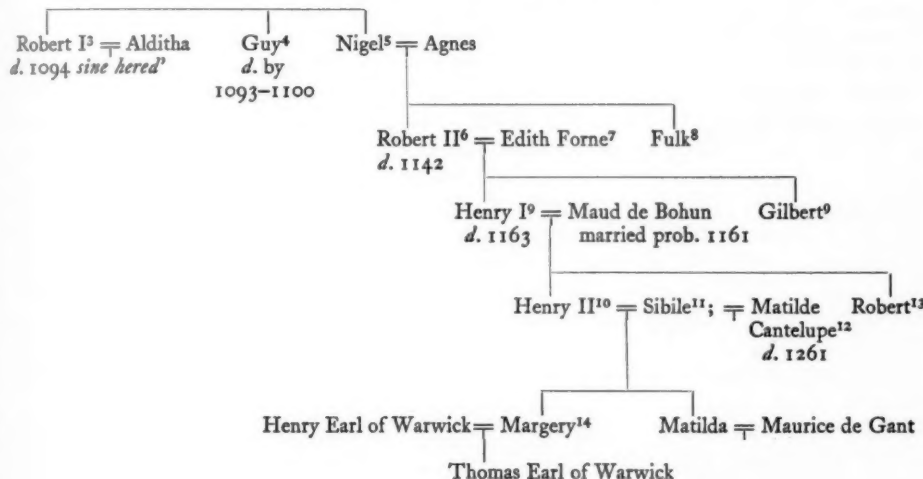
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confirmation of Robert d'Oilli II's gift to St. Frideswide's shows that the manor was then in the possession of Roger d'Oilli,¹ and his descendants bearing the name Roger from generation to generation can be seen in possession until some time before 1268² it was leased from them for his lifetime by Bogo de Clare (d. 1294).

TABLE I

The d'Oilli Family: the Main Line



¹ *Cart. St. Frideswide's*, i, no. 8.

² *Feet of Fines Oxon.* (Oxf. Rec. Soc. xii (1930)), p. 197; *Hundred Rolls*, ii, 730-1: 'Heredes Rogeri de Oyly tenent manor de Escote cum pert. de Hugone de Plessetis pro ij feodis militum et idem Hugo de domino Regis in capite quod quidem manor Beogo de Clar tenz de heredibus predictis ad terminum vite reddendo uno cerotecar ad pascham et scutag' qu' cur' et tenz in eodem manor ij hydas terre que valent per anno x libris.'

³ Died 1094, *sine hered'*; *Cart. Oseney*, iv, i, 11. His wife Ealdyth (Alditha) was the daughter of a Saxon, Wigod.

⁴ Dead by 1093-1100. ⁵ Died after 1115, *Cart. Oseney*, iv, 416 n.; *Chron. Abingdon*, ii, 74.

⁶ *Pipe Roll 31 Henry I*; *Cart. Oseney*, v, 81.

⁷ *Cart. Oseney*, iv, 11. Edith Forne had been the mistress of king Henry I (see J. H. Round, *Geoffrey de Mandeville* (1892), p. 94, n. 4).

⁸ *Thame Cartulary*, i, 3; *Cart. Oseney*, i, 2; *Cart. Eynsham*, i, no. 65.

⁹ *Thame Cart.* i, 2-3; *Sandford Cart.* i, no. 62;

Cart. Oseney, i, 1; iv, 27-28; Henry's reference to Edith as *sororis mei* in *Cart. Eynsham*, i, no. 69, is probably a mistake for *matris mei*.

¹⁰ Born 1161-2; d. 1232; *Cart. Oseney*, iv, no. 92, pp. 132-3, makes it clear that the father of Matilda, wife of Maurice de Gant, was still alive in 1219-23; *Cart. Oseney*, i, xxvi; *Fine Roll*, sub anno, p. 231. Constable, c. 1220: *Eng. Reg. Godstow*, ii, 570. See also, however, J. H. Round in *Genealogist*, v (1888), 80-81. Henry d'Oilli II describes Guido de Oilli as *cognato mei* in 1184-1205, *Cart. Oseney*, v, 210, 237.

¹¹ *Facs. Oxf. Charters*, no. 89; *Cart. Oseney*, iv, 55, alive 1220.

¹² Wife of Henry d'Oilli II, 1228-9; *Cart. Oseney*, vi, 9; d. 1261.

¹³ *Facs. Oxf. Charters*, no. 87; *Cart. Oseney*, iv, 19, 55; dead in 1220.

¹⁴ Henry d'Oilli II never speaks of Margery in his charters, only of Matilda. Through Margery's marriage in 1206 the d'Oilli Honour passed to the earls of Warwick.

The descent of the Roger branch of the d'Oilli family is not quite so clearly traceable, and in Table 2 each member is labelled provisionally. The Roger d'Oilli (B) who was in possession of Ascot about 1129¹ was probably one generation removed from the Roger d'Oilli (A) of Domesday.² A Roger d'Oilli was styled *constabularius* in 1105;³ he and Nigel d'Oilli were sometimes together with King Henry I,⁴ and he could have been the Roger d'Oilli (A) of Domesday. Roger d'Oilli (B) may have entered his lands not long before 1130;⁵ he was probably the Roger d'Oilli who was a member of the king's household in 1135,⁶ and the one who was with the empress at the siege of Winchester in 1141,⁷ and would have been a man of some importance.⁸ He married Hawis, by whom he had two sons, Roger (C) and William (who became a monk before 1142).⁹ He seems to have died in the 1150's and been succeeded by his son Roger (C),¹⁰ who himself had a son Roger (D), another son Hugo who became a monk,¹¹ and a daughter Helewisa who married a William de Chesney about 1178.¹² Roger (C) must have died not long before 1190, in which year Roger (D) paid 20 marcs 'pro habenda terra de Estcote que fuit patris sui'.¹³ This is presumably the Roger who was in possession of Ascot in the 1210's and 1220's,¹⁴ but it is not easy to understand the position of the John d'Oilli who confirmed the grant of tithes in Ascot to Oseney at some time between 1194 and 1210,¹⁵ nor of the John whose son Roger has a claim to Ascot apparently superior to that of Roger son of Roger in 1268, when Bogo de Clare was leasing it.¹⁶ In the Hundred Rolls of 1279 Ascot was entered as held of Hugo de Plessis by the heirs of Roger d'Oilli, from whom it was being leased by Bogo de Clare for his lifetime.¹⁷

The anomalous series of payments concerning the d'Oillis, entered in the Pipe Rolls for the years 9 to 13 Henry II (1162-7), are apparently consequent upon the death of Henry d'Oilli I in 1163 while his son was still a minor only in his second

¹ *Cart. St. Frideswide's*, ii, no. 851.

² He held land of Osbern fitz-Richard in Naunton, Glos.; DB, fol. 168b.

³ *Chron. Mon. Abingdon*, ii (Rolls Ser. 1858), 127.

⁴ They witnessed royal charters together; *ibid.*, pp. 73, 105, 114; Nigel was evidently often with the king in this district, *ibid.*, *passim*.

⁵ In the Pipe Roll for 31 Henry I (p. 6) he is recorded as having paid 56s. 8d., though for a reason not specified.

⁶ *Red Book of the Exchequer* (Rolls Ser.), p. 812.

⁷ J. H. Round, *Geoffrey de Mandeville* (1892), p. 125 n.

⁸ On the position of men with the rank of baron, though not tenants-in-chief, as compared with the great barons, see *V.C.H. Oxon.* i, 385; F. M. Stenton, *First Hundred Years of English Feudalism* (1935), p. 90.

⁹ *Cart. Eynsham*, i, no. 66 (a grant by Robert d'Oilli, d. 1142); nos. 70, 74, 163. For Hawis, see *ibid.* i, 420.

¹⁰ *Cart. Eynsham*, i, nos. 74, 75.

¹¹ *Cart. Eynsham*, i, nos. 72, 73; Hugo held lands in Naunton, Glos. A Hugo d'Oilli was fined 20s. under the Forest Laws in 1176 (*Pipe Roll 22 Henry II*, 33).

¹² *Cart. Eynsham*, i, nos. 165, 166, pp. 421-2.

¹³ *Pipe Roll 2 Ric. I*, 14.

¹⁴ *Cart. St. Frideswide's*, ii, nos. 1017, 1019, 1020; in no. 1022 (c. 1229) the prior and convent of St. Frideswide's agree to find a chaplain to say mass in Roger d'Oilli's chapel at Ascot whenever Roger d'Oilli, his wife, or his family (*successores suorum*) are present, and this arrangement appears in the Hundred Rolls of 1279 (ii, 731).

¹⁵ *Cart. Oseney*, iv, no. 507; for John d'Oilli see also *Feet of Fines Oxon.*, p. 11. It is possible that Roger d'Oilli might have gone abroad with the king.

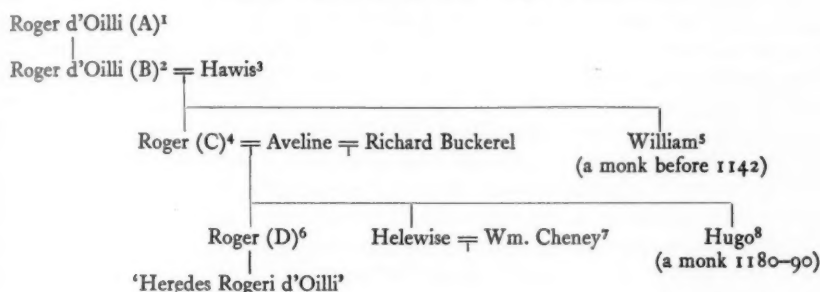
¹⁶ *Feet of Fines Oxon.* (Oxf. Rec. Soc. xii, 1930), p. 197.

¹⁷ *Hundred Rolls*, ii, 730: Bogo de Clare died in 1294 (*Cal. Pat. R.*, sub anno).

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TABLE 2

The d'Oilli Family: the 'Roger' Line

year.⁹ The d'Oilli Honour would then have come into the hands of the crown for the period of the minority, nearly 20 years. Some property seems to have been under lease from the royal demesne,¹⁰ and the widow of Henry d'Oilli I was probably allowed to take up the lordship of a portion as her widow's dower, as she paid £4 in 11 Henry II (1164/5).¹¹ But the rest of the Honour must have been administered by other hands. Roger d'Oilli, though not Henry's heir, owed to the exchequer 100 marcs 'pro terra sua' in 9 Henry II (1162-3), which in the following year had become 200 marcs.¹² This is an arbitrary fine as exacted from baronies, bearing no particular relation to the size of the barony, and here less than the £165 which would have been due, at the rate of £5 for each knight's fee normal for non-baronial hold-

¹ Held land in Naunton, Glos., of Richard fitz-Osbern, DB, fol. 168b; probably the same as the *constabularius* of 1105 (*Chron. Mon. Abingdon*, ii, 127) and who was evidently at times with Henry I.

² He may have come into his lands in the 1120's (he was paying money for an unspecified purpose as entered in the Pipe Roll of 31 Henry I), and was in possession of Ascot c. 1130. He was probably the same as the Roger d'Oilli, sheriff in 1135, who was with the empress at the siege of Winchester in 1141.

³ Perhaps the daughter of Roger de Chesney and Aliz de Langetot (*Cart. Eynsham*, i, nos. 124, 164, and p. 420).

⁴ Probably died a little before 1190, as a Roger d'Oilli paid 20 marcs in 1190 *pro terra sua*. It must have been Roger C who was the first husband of Aveline; she married secondly Richard Buckerel (*Feet of Fines Oxon. 1222*, p. 66). She had possessions in Ascot as her widow's dower.

⁵ A monk before c. 1142, see *Cart. Eynsham*, nos. 66, 70, 72, 74, 163; no. 66 is a grant by Robert

d'Oilli who died in 1142.

⁶ This is probably the Roger of the 1229 record, though it is not clear what place was occupied by John d'Oilli in the 1190's; perhaps Roger went overseas with the king.

⁷ *Cart. Eynsham*, i, no. 165.

⁸ *Cart. Eynsham*, i, nos. 72, 73; he held land in Naunton. A Hugo d'Oilli was fined under the Forest Laws in 1176 (*Pipe Roll 22 Henry II*, 33).

⁹ He came of age after Michaelmas, 1182 (H. E. Salter, *Facs. Early Oxford Charters*, no. 86). His name appears regularly in the Pipe Rolls from 28 Henry II onwards, and his confirmation charter of gifts in his fee is witnessed by Robert de Witefield, 'tunc vice comes', who was Sheriff in 1182-5.

¹⁰ *Pipe Roll 13 Henry II*, 105; 'In terra Henrici de Oilli que est in dominio Regis, viijs. ijd.'

¹¹ *Pipe Roll 11 Henry II*, 71. The confirmation by Hugo de Plogeneio of a grant by Roger d'Oilli c. 1178 may also reflect wardship during this minority (*Cart. Eynsham*, no. 165).

¹² *Pipe Rolls 9 Henry II*, 50; 10 Henry II, 8.

ings, on the 33 knight's fees of the d'Oilli Honour of Hook Norton.¹ This sum is quite beyond any holdings of the Roger d'Oilli line, and they were not in fact even tenants *in capite*. It thus seems very much as though in 1163 Roger d'Oilli (C) had been allowed to assume wardship² of the d'Oilli Honour, though 'pro terra sua' is a peculiar way of putting it. By 13 Henry II Roger had paid off the 200 marcs, and a separate marc in respect of Ascot (possibly concerned with forest trespass),³ and he appears no more in this connexion. Henry d'Oilli II is named as lord of the Honour in the *Cartae Baronum* of 1166,⁴ for he had not been deprived of his rights: it is more surprising that from 13 Henry II onwards, though he was then only 4 years old, payments of aids are recorded as from Henry d'Oilli.⁵

In 1175/6 Roger d'Oilli (C) was fined 200 marcs for transgressing the Forest Laws.⁶ In the summer of 1175 Henry II, pursuing the policy of raising money out of judicial proceedings, had presided in person over his first prosecutions under the Forest Laws, and in 2 years had raised the vast sum of about £10,000.⁷ Roger d'Oilli was thus but one of a great company who were fined; some 60 were entered for Oxfordshire alone for 1175/6, and in all about 1,700 persons were amerced. Such fines cannot be taken as a mark of any particular disfavour, for among those fined were some who had greatly helped Henry II to stifle the rebellion of the previous years. This sum 200 marcs was large, however—only two others were entered for so much under this county, and four more for £100 each—and for this debt his lands seem to have been sequestered to others. Most of his possessions were put into the receivership of Thomas Fitz-Bernard,⁸ though the king bought him out in 1178/9, and the sheriff made payments in respect of this fine in 1175/6 (£7. 5. 4) and in 1183/4 (£1. 15. 4 specifically 'de exitu de Estcote que fuit terra Rogeri de Oilli'). Roger d'Oilli (C) died in 1190, and we do not know whether he ever regained full enjoyment of his lands, but in that year Roger d'Oilli (D) paid 20 marcs 'pro habenda terra de Estcote que fuit patris sui'.¹⁰

In 1190 £10. 11s. was still owing¹¹ from Thomas Fitz-Bernard's period of sequestration, and in the next year this residue was transferred to Kent,¹² where his widow still owed it in 5 Richard I,¹³ after which no more is heard of it.

THE CASTLE

The building of the castle. Some indication of the date of building of a castle at Ascot is revealed by the documents concerning the manorial chapel. This was given

¹ See J. H. Round, *Family Origins* (1930), 217–236, for discussion of the relation between reliefs payable at £5 per knight's fee, and the fines paid on entering into possession of baronies.

² F. M. Stenton, *First Hundred Years of English Feudalism* (1932), 220; for discussion of wardship in connection with reliefs and fines, see J. H. Round, *Family Origins* (1930), esp. 230, n. 52.

³ *Pipe Roll 13 Henry II*, 15.

⁴ Printed in *Red Book of the Exchequer* (Rolls Ser.), 305. ⁵ *Pipe Roll 13 Henry II*, 15.

⁶ *Pipe Roll 22 Henry II*, 31.

⁷ J. H. Round, in Introduction to *Pipe Roll 22 Henry II* (Pipe Roll Soc., 18); L. F. Salzmann, *Henry II* (1917), p. 148.

⁸ *Pipe Rolls 23 to 30 Henry II*, *passim*, and especially *Pipe Roll 31 Henry II*, 106.

⁹ *Pipe Roll 30 Henry II*, 108.

¹⁰ *Pipe Roll 2 Ric. I*, 14.

¹¹ *Ibid.*

¹² *Pipe Roll 3–4 Ric. I*, 100.

¹³ *Pipe Roll 5 Ric. I*, 123.

by Robert d'Oilli II to St. Frideswide's a little before 1130,¹ and the confirmation of Pope Honorius II (1124-1130)² is worded 'In Escota capellam que sita est in curia Rogeri de Oilli, cum pert. suis, Dimidiam hidam terre in Escota...'. The two documents in which this chapel is first described as 'capella sita in castello de Escot'³ are more difficult to date precisely, but are evidently between 1142 and 1163, for the acknowledgement in one by Roger d'Oilli of the rights of St. Frideswide's (derived from Robert d'Oilli's gift above) is confirmed by Henry d'Oilli I in the other; he succeeded his father in 1142 and died in 1163.

Here the word *curia* has some substance, and may be taken to mean the precinct of the manorial buildings. *Castellum* strictly referred to a building or fortified enclosure, *turris*⁴ being used for a tower or 'keep' such as found at Ascot. *Castellum*, however, like many such terms, could have a wide range of meaning; it was often used of such castles in general, and may even be found used to mean 'motte'.⁵ It is reasonable to consider that at Ascot the use of the term *castellum* would have been prompted by the erection of the tower, which would thus have been between 1130 and 1142-63. The chapel was presumably in the bailey to the west, as it was in existence before the term *castellum* was used, but an item in the chronicle of Meaux (1150-80)⁶ reminds us that a chapel might be in the upper floor of what was presumably the timber tower on a motte.

The dismantling of the castle. After 1163 there is no further reference to the *castellum* at Ascot except in a certificate issued in 1212 after an inquisition taken at Enstone before Walter Mape, archdeacon of Oxford.⁷ Its wording, 'cognovisse quod Capella que vocatur de castello de Escot Rogeri de Oilli', gives the impression of hearsay evidence, or of being copied from one of the earlier documents presented as evidence. The inquisition was not concerned with the existence of a functional castle at Ascot in 1212 and we need not take this certificate as evidence that one still remained. By 1229 the earlier wording 'capella sita in curia de Estcote' was once more used,⁸ and again in the Hundred Rolls;⁹ no later reference to the chapel with its location has been found.

Excavation has shown that the tower was carefully dismantled to within 6 ft. of its footings and the mound smoothed off to its present shape (p. 236). If this had not already been carried out under the terms of the agreements between Stephen and Henry in 1153 (and some of the pottery evidence makes this unlikely), the most probable known occasion for this operation would have been when the d'Oilli estate at Ascot was apparently placed in the hands of the sheriff after Roger d'Oilli had been fined

¹ *Cart. St. Frideswide's*, ii, no. 951; *Cart. Eynsham*, i, 73, n. 1.

² *Cart. St. Frideswide's*, i, no. 8; compare the confirmation by Pope Innocent II, *ibid.*, no. 15.

³ *Ibid.*, nos. 1009, 1010.

⁴ J. H. Round, *Geoffrey de Mandeville* (1892), pp. 328-46.

⁵ e.g., as of Hastings on the Bayeux Tapestry; in the Aberconway charter of c. 1200, 'usque ad monticulum que in similitudinem castelli apparet'

is a prominent motte-like hill near Llyn Dinas in Nant Gwynant to the south of Snowdon (*Archaeol. Cambrensis*, xciv (1939), 154). See also W. M. Mackenzie, *The Medieval Castle in Scotland* (1927), 3, 6.

⁶ *Chron. Mon. Melsa*, I (Rolls Series), xxiv, 107.

⁷ *Cart. St. Frideswide's*, ii, no. 1019.

⁸ *Ibid.*, no. 1022.

⁹ *Hundred Rolls*, ii, 731.

for transgression of the Forest Laws in 1175/6. Only the previous year the king had reminded the Justices, in the Assize of Northampton, to inquire 'quod castella diruta prorsus diruantur et diruenda bene prosternantur',¹ and the Pipe Rolls of the later 1170's record some expenditure on demolition of castles, of which Benington, Herts., with its small square keep, is comparable with Ascot, though its earthworks are much more imposing.²

Even though the raising of money was probably of more real consequence than the actual protection of the forests, it is improbable that such a castle as Ascot would under the circumstances have been allowed to remain usable, set as it was on the very fringe of the Wychwood area under forest law jurisdiction. The excavation produced a greater proportion of deer-bones than is usual on comparable sites, the beasts no doubt being taken from the adjacent forest. Henry II, however, seems to have issued a writ which in the eyes of his subjects suspended the Forest Laws during the troubled period of the 1173-4 rebellion, and allowed anyone to take wood and deer, but he refused to recognize this when in 1175 he needed to raise money.³

The purpose of the tower. Excavation of this tower showed that it had been much used. Ascot in the thirteenth century was evidently used periodically as a residence by the Roger d'Oilli family,⁴ and the very existence of a private chapel by the 1120's suggests that it was so used through the twelfth century. Even in the twelfth century, however, the lord's house would presumably have been in the courtyard (*curia*) where the chapel must even then have stood, and which probably became the castle bailey. The tower itself must have been used by those men, perhaps mostly local, who discharged their obligations⁵ to their lord, Roger d'Oilli, by doing spells of duty in his castle, perhaps no more than one or two at a time.⁶ Occasionally at troubled times such a tower might have been used by members of the lord's family, and the rather exotic silver inlaid key, probably for a chest, from the tower floor suggests that valuables and deeds may have been kept here. The Weston Turville evidence shows that such a small private castle could be accepted as an ordinary part of the life of the English countryside in the mid-twelfth century.

¹ W. Stubbs, *Select Charters* (9th ed., H. W. C. Davis, 1913), p. 180, clause 8.

² Pipe Roll 23 Henry II, 144; 125. was spent on 100 picks for its demolition. This castle has never been properly described: it has the remains of a keep 41 ft. by 44 ft., of flint masonry with oolite dressings (Bath or Taynton Stone) on the corner clasping and mid-side pilaster buttresses. A large mass of the flint masonry lies where it fell, perhaps during the operations of 1176.

³ L. F. Salzmann, *Henry II* (1917), 168.

⁴ *Cart. St. Frideswide's*, ii, 251; c. 1229; St. Frideswide's agreed to provide a chaplain whenever Roger d'Oilli, his wife or members of his family should be there. Later in the century (1222) Matilda, widow of Roger d'Oilli, had the capital messuage at Ascot as part of her widow's dowry (*Feet of*

Fines Oxon. (Oxf. Rec. Soc. xii, 1930), p. 66).

⁵ The frequent description from the 1120's onwards of the d'Oilli estate at Ascot as 'de feodo que pertinet ad castellum Oxonie' perhaps suggests that the lordship of this Ascot manor carried with it in some way the obligation of castle duty in Oxford Castle.

⁶ This type of service and the relation of a small private castle to its neighbourhood is illustrated in the mid-twelfth century at Weston Turville, Bucks. (F. M. Stenton, *First Hundred Years of English Feudalism* (1935), pp. 206-7, 281-2). Here is a fair-sized motte which probably never carried a stone structure; its top seems to have been sliced and levelled in garden improvements. The castle is noted as 'antequam prosterneretur' in the Pipe Roll for 1174, p. 82.

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Such a site in the valley bottom can hardly have been chosen for strategic reasons. Roger d'Oilli may have chosen this among his estates for such a defensive structure because of its proximity to the king at Woodstock and to Wychwood Forest.

GEOLOGY OF THE SITE¹

The subsoil is river gravel of the lowest terrace of the Evenlode; a patch of this terrace extends for about $\frac{1}{2}$ mile along the south bank of the river. To the north-west, north, and east towards a small stream, the gravel slopes down gradually under alluvium. Towards the river on the north-west, the outer enclosure is set approximately along the boundary of the gravel. To the south the gravel extends as far as the church.² The gravel is only 4 ft. thick to the south of the manor; under it, forming the solid country rock of all the bottom part of the valley, is Lias clay more than a hundred feet thick.

The mound consists of Lias clay containing belemnites and bits of oyster. It was presumably obtained from digging the moat of the mound, which would have yielded about the required quantity.

The foundations of the tower for 2 ft. below the lowest dressed quoin-stone are in clayey made ground, but the lowest 6 in. penetrate the undisturbed Lias clay. The weathered zone of the Lias goes under the stone footings, but no pebbles or stones were found underneath them. Below this the compactness, homogeneity, and blue colour of the Lias clay leave no doubt that it is the undisturbed natural deposit.

The conclusion is that the tower and mound were built on a natural hillock of Lias clay rising 3 to 4 ft. above the surrounding gravel surface of the valley bottom, and this presumably determined the site (see fig. 4). Such a hillock of clay rising through a gravel terrace is an unusual but not improbable feature.

Inside the tower, towards the east, the filling below the floor is river gravel which could be dug at the site. It consists of small rolled pebbles of limestone mixed with quartz and quartzite pebbles, and other erratics derived ultimately from the glacial drift. Towards the west this filling is more loamy and of a reddish tinge.

THE EXCAVATION

The first trenches across the top of the mound surprisingly revealed 6–10 in. below the surface the remains of a 35 ft. square stone tower with walls 8 ft. thick. The interior was cleared of its gravel and rubble filling down to a poor mortar floor some 2 ft. 6 in. below the surface. The interior surfaces of the rubble walls had been plastered down to this level, though little plaster had survived. The gravel and mortar floor had been laid on a deposit 2 ft. thick, of reddish loam to the west and river gravel towards the east, where in its lower part it contained a little pottery (A. 1, A. 2). This gravel had been laid on compact clay, which lapped up to the rubble walls, and over which was a builders' debris layer of poor gravelly mortar and occasional masons' chips, some of good oolite. This clay about 1 ft. 6 in. down

¹ Based on reports by Dr. W. J. Arkell, F.R.S., indebted.

who visited the site several times during the excavations, and to whose interest we are very greatly p. 108.

² *Proc. Geol. Assoc.* lviii (1947), map opposite

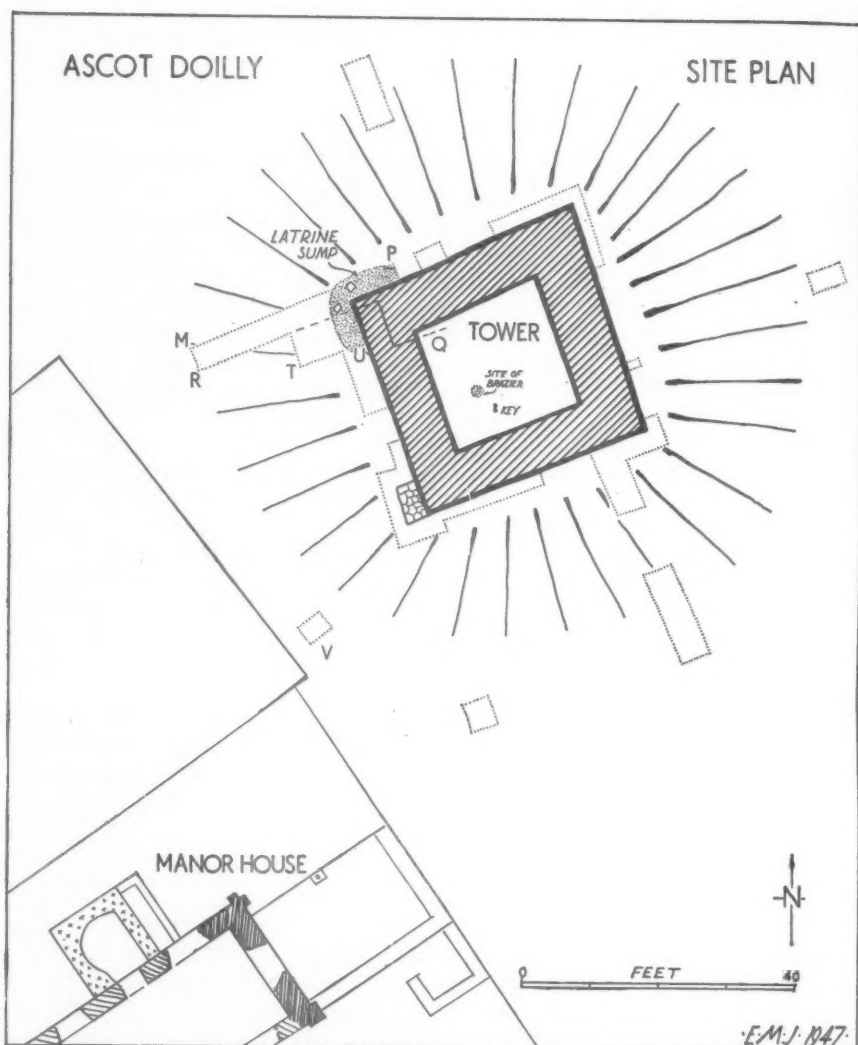


FIG. 2. Plan of the tower showing its relation to the mound and to the thirteenth-century building. The excavation trenches are marked with a dotted line. The ditch extends round the mound on the north, east, and south, but not on the west between R and V (for ditch section across trench to the north, see fig. 6, and for full plan of manor house, fig. 22).

gave way to undisturbed Lias clay. A thin layer of dirtier clay with a few tiny pebbles was traceable in places as an interface; without this the transition was difficult to define.

A section into the mound up to the north-west corner of the tower revealed more clearly the structural relation of these two features, the tower and the mound. The lowest stone courses, about 6 ft. down, were found to rest on the undisturbed Lias clay, sunk a few inches into it. The lowest 12 in. of the tower footings were rubble stone apparently thrown into a trench dug into a layer 2 of dirty less cohesive clay with some pebbles, which overlay the undisturbed Lias clay. This layer extended out and thickened towards the outside edge of the mound. The surface of this dirty clay layer 2 lapped up against the tower footings and on it were some small chips of the coarse rubble limestones used for the tower footings, as well as remains of the sandy gravel used for the poor mortar, and some small white limestone pebbles which had apparently once been calcined for lime. Above lay a layer 3a of brown clay thickening towards the outer edge of the mound, and with occasional very thin horizontal streaks of gravel with a few white burnt limestone pebbles. Above this was a band 3b of grey clay shot sparsely through with gravel and burnt limestone fragments. Above this again was a deposit 3c of brown clay irregularly streaked with grey, containing halfway up it one mason's chip of fine oolite (Taynton Stone).

Overlaying 3c was a layer Da of soil and fine clay black with charcoal, again lapping against the tower, containing a few masons' chips of fine oolite and pottery. This was separated from a similar layer Db above by some 6 to 9 in. of dirty clay. These pottery-containing black layers Da, Db are local features outside the north-west corner and their significance as a deposit beneath a latrine chute is discussed below. Over the temporary building layer corresponding to the offset on the tower wall and to the top of layer Db, a further deposit of yellow clay had completed the mound profile to about the surviving level of the masonry. The stair abutment at the south-west corner had been laid on this temporary building surface at offset level (pl. xxxviii b), there firmly resting on yellow clay. A further thin capping of clay and humus complete the present profile of the mound.

Summary of relation between tower and mound

Layer 2 is probably the surface soil pre-dating the mound, and the thickening towards the perimeter the result of scraping this back from the site of the ditch and banking it up as a ring-work marking the area of the mound. Into this layer 2 was dug the foundation trench to bed the tower footings firmly on undisturbed Lias clay. The spread of mason's chips of the rough stone, and of the gravel and burnt limestone used for mortar, strewn over layer 2, shows that this surface was open while the lower courses of the tower were being raised. Taynton stone chips first appear in layer 3c and on the Da surface, precisely at the level of the lowest Taynton stone quoins, and the inference is that the raising of the mound kept pace with the lower courses of the tower. This is further suggested by the spreads of gravel and mortar fragments at other levels. The offset on the tower represents the maximum intended height of the mound, 3 ft. of ashlar quoins thus being buried. At this level a layer of mortar and chips lapping against the masonry was found at many points,

ASCOT DOILLY - SECTIONS OF MOUND AT N.W.

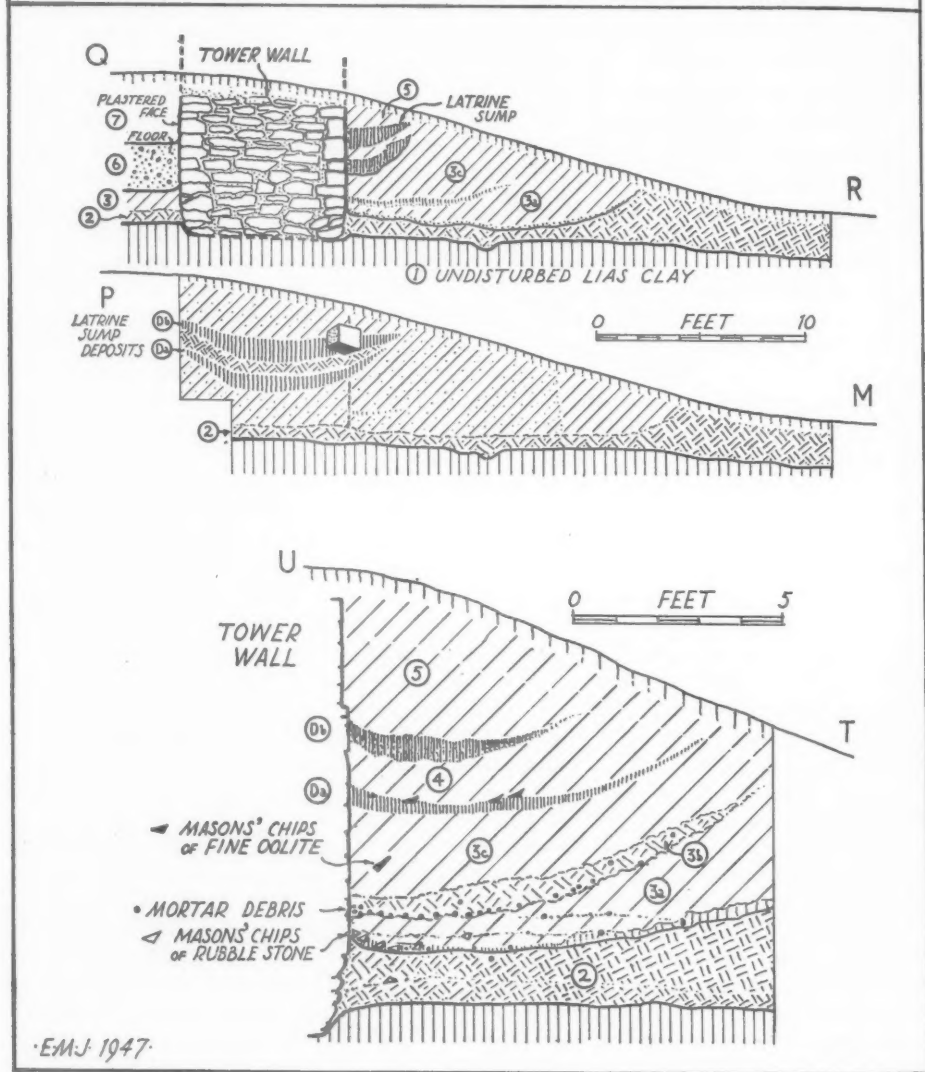


FIG. 3. Sections through the mound up to the stone tower footings (for locations see plan, fig. 2; see also pl. xxxvi b for P-M).



Photo. P. S. Spokes

a. Ascot Doilly: north-west corner of tower, during excavation, showing ashlar blocks of Taynton stone embedded in the upper filling of the latrine sump



Photo. E. M. Jope

b. Ascot Doilly: north-west corner of the tower, looking east, showing the dressed Taynton stone quoins on rubble footings and the two layers of latrine sump slime (the lower corresponding to the top foot of the ranging rod). Three feet below this is the weathered soil layer (2) (Fig. 3)

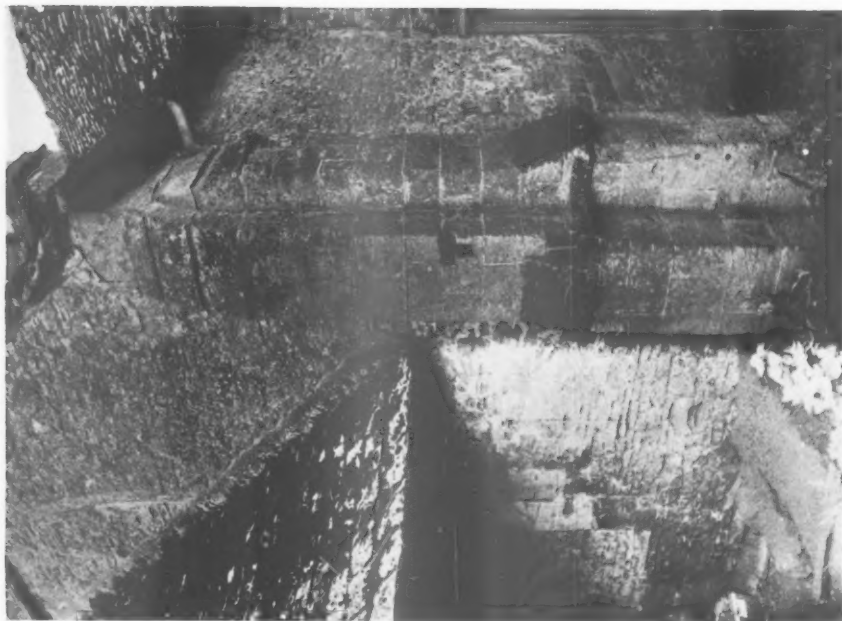


Photo. P. S. Spokes

a. Ascot Doilly: the thirteenth-century buttness at the north-east angle of the house, showing also the great window of this date in the gable, cut through at the bottom by one of the sixteenth century (see fig. 22)



Photo. E. M. Joyce

b. Ascot Doilly: the north-west corner of the tower, looking east, as excavated, showing the ashlar quoins rising from rubble footings let into the clay. The lower layer of the latrine sump appears at the top of the ranging rod

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most clearly around the north-east corner (obscured at the north-west, of course, by the latrine sump).

Hence the evidence shows that the mound was piled in stages against the tower as its masonry was raised. If there had been an earlier motte on this site the upper part of layer 2, with its stone chips and mortar fragments, shows that it must have been virtually removed before the tower was started.

Latrine sump. The black pottery-bearing layers Da and Db outside the north-west corner of the tower must be the accumulated deposits in a latrine sump. The lower layer Da as a sump deposit was largely confined to the north side, but its bottom could be traced rising along the west face as a temporary building-surface with masons' chips, mortar, and charcoal. The upper layer extended equally on the north and west. Layer 4 between Da and Db, dirty clay with patches of gravel and small stone, is presumably a cleansing deposit thrown in. (See pls. xxxvi b, xxxvii b, and figs. 2 and 3.)

The ashlar blocks embedded in the upper layer Db (pl. xxxvi, a) probably came from the lining of a latrine-chute (some being appropriately shaped), and suggest the destruction of the tower when the soft deposit was still exposed and unconsolidated, with little accumulation of soil and vegetation over it. The under-surface of the stones lay in direct contact with the black slime and with some sherds (e.g. D. 17, fig. 12). This is good evidence that the destruction of the tower followed quickly after it had been in use, with no gradual decay in a period of disuse. This layer Db contained much pottery, including the pitcher D. 18 and most of the fully recoverable cooking-pot profiles, and this pottery suggests the destruction of the tower before the end of the twelfth century.

The mound ditch. A section was cut across this on the north-west. It had been dug about 6 ft. into the Lias clay, and showed two phases of silting. The lower was waterlogged and consisted of black clayey slime (drying to a fine dark grey powder), with much brushwood, hazel-nuts, some small worked wood (oak), and a piece of thin board perhaps part of a roof-shingle.¹ It yielded only three pieces of pottery, all of standard fabric (p. 244), body parts of cooking-pots, but no rims. This is the primary silt of the ditch, and as it contained also numerous remains of freshwater mussels it must have held fairly permanent water and was probably connected by the outer ditches to the Evenlode.²

Above this was a thin layer of dirty clay, on which lay sloping upwards towards the mound some fair-sized oak timbers very roughly dressed. Above this again was a layer 2 ft. thick of looser black slime with much large squared stone (some of Taynton Stone) as well as smaller rubble. The stone in this secondary deposit must have come from the tower demolition, as in the latrine sump. This layer contained a fair amount of pottery (see G. 1-4) all (except G. 1) closely comparable with that elsewhere derived from the tower occupation.

¹ Dr. G. W. Dimbleby kindly reports that it is cut from radially split oak, part of a sizeable log.

² Sections cut through the outer banks at various times have produced pottery closely comparable

with that from the tower (e.g. Fig. 11, F i) but none later, which reinforces the view that these banked and ditched paddocks are contemporary with the castle.

This secondary silt was overlaid by a layer of brown clay, the smaller stones, and modern humus.

The ditch was sounded on the east, south, and west by small pits and by augering. It did not completely encircle the mound. The part left uncut formed a broad approach to the mound and tower on its south-west side, the bailey side, where there

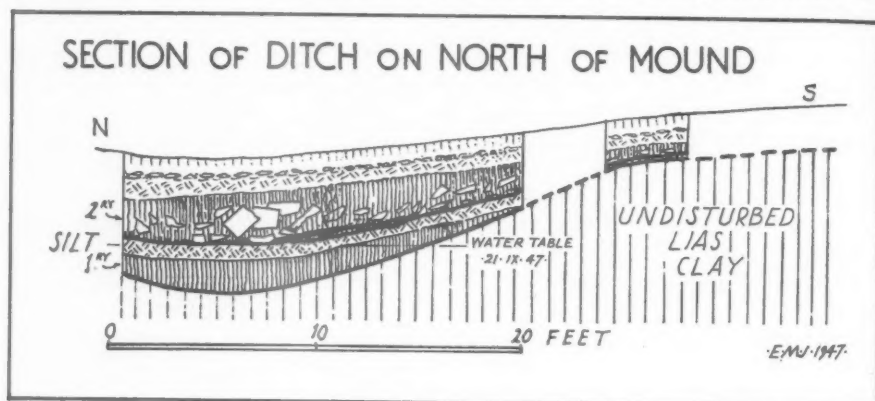


FIG. 4. Ascot Doilly: Section through mound ditch to the north of the mound (see plan, fig. 2).

is a stair abutment on the tower. This uncut part is much broader than that found by Mr. Brian Hope-Taylor at Abinger, but in principle it is probably similar, to provide foundations for bridge or stair timbers.

The tower. The walling 8 ft. thick and 35 ft. square must be the base of a tower, and it comes as a surprise that in size this plan is closely comparable with that of the imposing 4-storey tower 94 ft. high (pre-dating the castle chapel founded in 1074) to the south of Oxford castle mound (35 by 37 ft. with walls 9 ft. thick).¹

There is no actual evidence for the original height of the Ascot tower. It is hardly likely to have been the 94 ft. of the Oxford tower: this would have given a load of some 12,000 lb. per sq. ft. (allowing for doors, windows, and offsets), about double the load allowable on such Lias clay by modern standards (which have, however, a safety factor of $\times 3$, so a tower of this height would probably have stood).² On the other hand, 50 ft. would have been rather squat, making it look almost square on its mound: 60–70 ft. is perhaps the most reasonable estimate.

The Ascot tower is built of roughly coursed rubble, a mixture of local limestones including much from the Middle Lias Rock Bed, full of fossils.³ This is exposed in the river bank on either side of Catsham Bridge, 2 miles down the Evenlode, and probably elsewhere, though no exposure has so far been noted nearer Ascot. The

¹ Roy. Comm. Hist. Mons. Oxford City (1939), p. 158, pl. 211, which gives, however, no section, elevation, or plans above ground floor.

² We are most grateful to Mr. J. G. Scott, lecturer in soil mechanics, Queen's University,

Belfast, for his advice on the capabilities of this subsoil.

³ This paragraph is based on notes by Dr. W. J. Arkell, F.R.S.

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[Diagram showing a cross-section of a river bank with a layer of silt and a layer of clay below it.]

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Ascot tower differs from the Oxford tower in having dressed quoins of fine oolite (Taynton Stone, from the Taynton or Milton quarries, 5 miles away). This stone was much used in the region for fine stonework in the eleventh and twelfth centuries.¹ The quoins have diagonal tooling, mostly fine, though some is of coarser, shallower cuts. The rubble joints are rather wide (about $\frac{1}{2}$ in.), and the walling is bonded with a poor friable coarse mortar made up of lime (the calcined pebbles not always broken up) mixed with the valley-bottom gravel.

The tower walling was continuous all round at 2 ft. 6 in. above the floor: this lower chamber must therefore have been a basement, the entrance being on the first floor, as was usual.

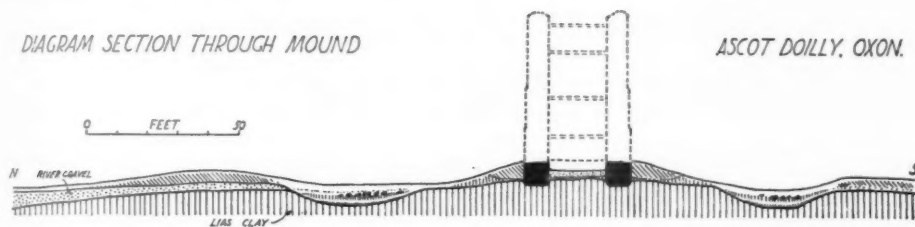


Fig. 5. Diagram section through the mound, showing its siting on a low rise of Lias clay protruding through the river gravel, and a suggested reconstruction of the tower.

The tower wall has a small offset on the outside a little below the original mound top, and the wall was probably thinned by a succession of further offsets through its height, as with the Oxford tower. Ashlars fallen into the latrine sump at the north-west corner (pl. xxxvi) came probably by their shape from the sloping lining of a latrine chute. Apart from these no other dressed stones were found among the tower masonry from which any details could be inferred, and no twelfth-century shaped stones have been detected built into the farm buildings.

There is a square, poorly built, rubble projection at the south-west corner (pl. xxxviii *b*), set on the mortar spread of a temporary building surface. This was probably the abutment for a timber stair or sloping bridge to the tower entrance at first-floor level.

Demolition of the tower. Excavation of the tower filling (section, fig. 6) showed that much poor-quality gravelly mortar (as used for bonding the rubble masonry) had fallen (rather than been washed) down the inside faces of the walls. The interior had then been filled with a mass of small and medium sized rubble stone, with some mortar debris and pottery. This was probably the result of pulling down masonry, the larger and better stone being removed for re-use elsewhere. No such mortar debris was traced down the outer surface of the mound or down into the secondary silting of the ditch, and the stones were evidently pulled inwards, though some detached stones were thrown outside, where they were found in the secondary silt of the ditch (p. 233; fig. 4) with twelfth-century pottery (G. 2-4).

¹ Map in *The Oxford Region* (ed. A. F. Martin and R. W. Steel, 1954), p. 114.

There was no soil accumulation over the tower floor, nor any evidence of fallen roof-timbers thereon. This indicates demolition after no prolonged period of disuse and decay, as is also shown by the way in which the ashlar from the latrine chute had fallen directly into the open slime of the latrine sump at the north-west corner (p. 233). Hence deliberate demolition is indicated.

Discussion of the historical background (pp. 227-8) suggests the later 1170's or early 1180's as the most probable period for such demolition. The archaeological evidence does not contradict this, though more evidence is desirable for dating the development of such pottery types as the deep pans E. 19, and the possibility must

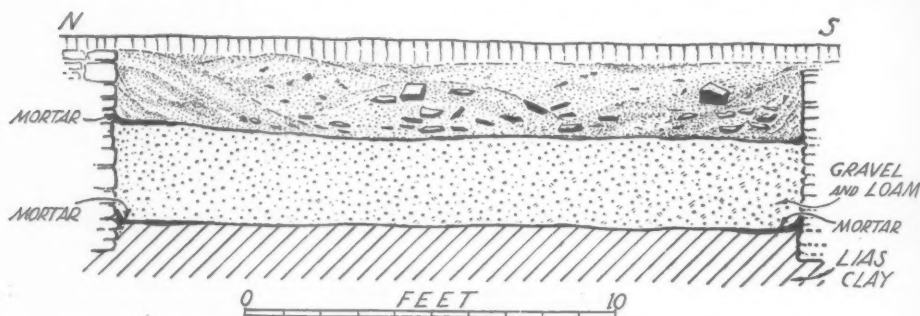


FIG. 6. Section north-south across tower, showing the character of the rubble and debris filling.

always remain that it was taken down a little later. There is, however, nothing among the pottery below the thirteenth-century surface of the mound (p. 243) which would not be at home (allowing for local variations) in the St. John's College well deposit with a worn coin of Henry II minted 1158-70, and other deposits of similar age in Oxford. There seems little reason not to accept this most probable period of the late 1170's or early 1180's for the demolition of the Ascot tower.

DISCUSSION OF THE TOWER STRUCTURE

When excavated in 1946 the Ascot tower with the mound piled round it in stages as it was raised revealed a new type of Norman castle construction.¹ Recently the great motte of the bishop of Winchester at Farnham, Surrey, with its stone shell-wall, has been shown to encase a massive square stone tower rising through its full height, the mound and tower similarly built up together (c. 1138).² This would seem a constructional principle familiar to Norman castle-building practice. With some towers the earthen mound was, however, piled later against the tower, and not raised as an integral part of the building procedure. At Lydford in Devon the tower has now been shown to have been founded on the natural shillett, the

¹ *Oxoniensia*, xi-xii (1946-47), 165-7.

² *The Times*, 13 Nov. 1958. We are grateful to Mr. A. J. Taylor and Dr. M. W. Thompson

for showing us the results of the Ministry of Works excavations at Farnham.

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mound having been later piled against the tower, thereby blocking a window.¹ Kenfig in Glamorgan is a thirteenth-century tower with a mound round it comparable with Lydford.² Dr. Stiesdal has reinterpreted the excavation data on the motte at Kaersgård,³ East Jutland, as the timber counterpart of these stone towers within mottes.

The principle has advantages. It provides the widely desired aspect of a tower rising from a mound, a symbol of lordship more impressive than a tower rising straight from the flat. It moreover eliminates the problems of consolidation of a mound to carry the weight of a tower, and the need to dig appreciable foundation trenches. It is perhaps not enough appreciated how often a natural feature has been adapted (and obscured) to form a motte, a tower then being founded on solid subsoil, either as a primary feature (as at Ascot and Farnham) or secondary (as probably at Clun, Shropshire).

Mottes are still imperfectly understood. Few have been adequately excavated, but already it can be seen that this general class of earthwork cloaks a variety of original structures in earth, timber, and stone.

Besides the type of motte piled against a tower as at Ascot and Farnham, recent work has shown massive timber towers on top of the mottes at Abinger,⁴ Surrey, and at Hoverberg⁵ near Cologne in the Rhineland. Other structures such as at Totnes suggest a stone footing (of undetermined depth) to carry a timber tower.⁶ At Kessel in Holland the lower part of a stone tower (not very securely founded) seems to have had a mound thrown over it, on which an independent stone curtain was built.⁷ Perimeter timber palisades have been shown at Abinger, and at Clough⁸ and Dromore⁹ in Co. Down, and the Mote of Urr in Galloway.¹⁰ On some of these mottes the earliest phase seems now represented by a central pit, the function of which is not yet fully explained. The successive heightening of an earthwork so that it has finally a motte-like appearance, shown in Ireland at Ballingarry,¹¹ Co. Limerick, and Lismahon,¹² Co. Down (which also has a palisade), may be seen also magnificently demonstrated at the Husterknupp,¹³ near Cologne; it seems that the mound of Clifford's Tower, York, may have been of the same type.¹⁴

¹ We are greatly indebted to Mr. A. D. Saunders for the information about his excavations conducted for the Ministry of Works at Lydford. Dating of the stone tower at Lydford is difficult; it must be fairly late (perhaps 1195), and the double-splayed windows need not really compel an early date, for similar ones occur in other towers, at at Bridgnorth (probably 1168-9), or Devizes, Sherborne, Kenilworth, and Portchester. In these thick walls they must have been built to give better lighting than single splays.

² *Archaeol. Cambrensis*, lxxxii (1927), 161 ff.

³ Discussed by Mr. Brian Hope-Taylor in *Archaeol. J.* cvii (1952), 42.

⁴ *Ibid.*, 27 ff., pl. v.

⁵ A. Herrnbrodt, *Der Husterknupp* (Cologne, 1958), pp. 178 ff.

⁶ *Trans. Devon Assoc.* lxxxvi (1954), 236-7.

⁷ *Ber. van de Rijksdienst voor het Oudheidkundig Bodemonderzoek in Nederland*, iii (1952), 13-14.

⁸ *Ulster J. Archaeol.* xvii (1954), 103 ff., pls. x, xi.

⁹ *Ibid.*, pp. 164 ff.

¹⁰ *Trans. Dumfries and Galloway Archaeol. Soc.* xxix (1952), 169-71.

¹¹ Excavated by Mr. J. W. Hunt; unpublished; quoted by S. P. Ó Riordain in *Antiquities of the Irish Countryside* (3rd ed., 1953), p. 20, where he points out that the motte-like aspect has been already achieved in pre-Norman times.

¹² *Medieval Archaeology*, iii (1959).

¹³ A. Herrnbrodt, *Der Husterknupp* (1958).

¹⁴ G. Benson, *Later Medieval York* (1919), p. 24; E. S. Armitage, *Early Norman Castles* (1912), pp. 244-5.

VILLAGE TOPOGRAPHY

The names Ascot Doilly and Ascot Earl perpetuate the dual holdings of Ascot in the Domesday Survey. Each, moreover, has its 'castle', that of Ascot Earl newly traced during a field survey of the village in 1946-7 (see p. 239 and fig. 1). The finds from the latter show that it could be contemporary with the period of that of the d'Oilli manor, though the possibility of its being a little earlier cannot be precluded. The church, which contains twelfth-century work, lies between the two parts of the village. Villages with multiple holdings but one centre of population are not unusual, and more than one manorial defensive structure may sometimes be found, though not commonly two of the mound and bailey class,¹ nor so clearly attached specifically to the respective holdings as at Ascot. The existence of such defensive works might be suspected on other villages with multiple holdings, and as those at Ascot remained in varying measure unobserved, fieldwork elsewhere might be rewarding. Insufficient attention has been paid to minor earthworks of the middle ages.²

Ascot was a fair-sized settlement during the eleventh to thirteenth centuries. The Domesday Survey³ records a total of 10 villeins, 7 bordars, and 10 serfs, and in the Hundred Rolls of 1279 there are listed⁴ 14 holders of 1 virgate (their services listed in detail), 8 of $\frac{1}{2}$ virgate, 23 cottars, and 12 free tenants. Some hint of the extent of the village during this period as compared with the present layout may be seen from the distribution of pottery finds recorded during the past 10 years⁵ (fig. 1). Very little pottery has been found which seems later than the thirteenth or early fourteenth century,⁶ but there is no evidence from other sources that the village suffered particular depopulation in the later middle ages. Such a pottery time-pattern is frequently observed on medieval sites and must be interpreted with caution.

The road coming south from the Shipton-Chipping Norton ridgeway must be ancient, and Ascot Bridge, where it crosses the Evenlode, is referred to in the Hundred Roll Survey of 1279. The old course of this road may be traced to the north-west of the level crossing. The open area to the north of the church perhaps

¹ Two or more earthworks of the mound and bailey class can be found scattered within the lands of one vill, as at Clifford, Aston and Ashton, Herefordshire (*Roy. Comm. Hist. Mons. Hereford*), or West Woodhay, Berks. (*Trans. Newbury F.C.* vi (1932), 115-26). It is not so easy to find examples of them both sited beside the main nucleus of population: Winkleigh, Devon (*Trans. Devon Assoc.* xxix (1897), 250, 262, 270), East Chelborough, Dorset (*Roy. Comm. Hist. Mons. W. Dorset* (1952), p. 90), and perhaps Knighton, Radnor (E. S. Armitage, *Early Norman Castles* (1912), p. 293), may be quoted. The question of siege-castles must also be raised here; the usually quoted examples are Corfe, Dorset (E. S. Armitage, *Early Norman Castles*, fig. 13), and Pampudding Hill in Oldbury beside Bridgnorth, a most dubious

example, for it is a regular motte (*Trans. Shropshire Arch. Soc.* lii (1948), fig. 6; E. S. Armitage, *Early Norman Castles*, 34). But an example needs to be excavated; some castles of the Empress Matilda's campaign were more slight affairs (F. M. Stenton, *English Feudalism* (1932), pp. 201-2). A village enclosure may be seen round two churches at Lee, *Roy. Comm. Hist. Mons. S. Bucks.*, p. 17.

² See, e.g., *Medieval Archaeology*, ii (1958), 113, 124-5. ³ DB, fols. 156b, 158b.

⁴ *Hundred Rolls*, ii (Rec. Comm. 1818), 730-1. ⁵ Based largely on material collected by Mr. Reginald Edginton.

⁶ There is part of a jug with broadly frilled base, of hard grey ware with olive glaze, found by Mr. Desmond Pratley on the site 150 yds. east of the church.



Photo. R. J. C. Atkinson

a. Air view of Ascot-under-Wychwood from the north-east, showing the Ascot Doilly manor and its paddocks (*centre*). The Ascot Earl mound and bailey site is just to the right of the top right of the picture (see Fig. 1)



Photo. P. S. Spokes

b. Ascot Doilly: south-west corner of the tower, looking south, showing the abutment for the timber stair



Photo. A. Austin

c. Half-capital of Taynton stone from Ascot Doilly ($\frac{1}{3}$)



Photo. B. C. S. Wilson

a. Ascot Doilly: glazed jug (E. 24, fig. 17) showing character of the vertical line decoration ($\frac{1}{2}$)



Photo. B. C. S. Wilson

b. Ascot Doilly: part of the body of a glazed jug (D. 19, not drawn) showing character of wavy line decoration, and tool-trimming of lower part (almost natural size)

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represents an original village green. High Street is probably on the line of a medieval street of Ascot Doilly, which leads through to the mill probably on the site of that of 1086. Many of the ditches can be traced (fig. 1) which divided the crofts of the medieval village, and the land round the Doilly manor into paddocks. Some of the latter, at any rate, seem to be of the twelfth century (pp. 233, 251-2; F.1), and such are not unusual features associated with mound and bailey earthworks.¹ On the rising fringes of the valley the rig-and-furrow pattern of the vill arable fields begins. These features are all shown on fig. 1, drawn from a combination of field survey and air-photos (pl. xxxviii, a).²

Ascot Earl

At the east end of the village, $\frac{1}{2}$ mile west of the Ascot Doilly tower, on rising ground to the south of the River Evenlode stands a kidney-shaped bailey (fig. 1), first noted during field survey in 1946-7. On its south the motte can still be traced rising in places some 10 ft. above the ditch; though obscured by buildings and gardens, its outline can be partly determined by property boundaries. This little mound and bailey is of a common plan, comparable in size and plan with those at Topcliffe, Yorks., or South Mimms, Middlesex.³

In December 1956 a small excavation⁴ showed that the bailey bank was formed of piled Lias clay, and occupation debris was found 3-4 ft. below the top of the north edge of the motte site. This consisted of black earth, charcoal, burnt daub with wattle-marks, bones of ox, sheep, pig and possibly deer, and pottery in general similar to that from the tower site. This pottery (fig. 7) is of the same standard fabric, but the rim-forms cannot all be exactly paralleled there. A selection of the bases, however, indicates the same range of vessel shapes. The absence of any glazed sherds among 70 sherds might hint at an earlier date for the Ascot Earl occupation, though this would be an unsafe inference, for many points on the Ascot Doilly site if similarly tested would have yielded no glazed pottery. One sherd, L. 1, is of the Iron Age, comparable with one found in 1957 under the rampart at Lynham camp, $1\frac{1}{2}$ miles to the north.

FINDS: POTTERY (figs. 7-19)

Coarse pottery was prolific from this site, some 100 vessels at least being represented. These were mainly cooking-pots (c. 62 per cent. of the total pottery), with only three bowls and three large pans, and five larger storage vessels. Jugs made up about 13 per cent. of the pottery, 9 per cent. being glazed; one large pan bore

¹ e.g. Ruislip, *Roy. Comm. Hist. Mons. Middlesex*, p. 107; Great Staughton, *Roy. Comm. Hist. Mons. Hunts.*, 252; Castle Thorpe and Lavendon, *Roy. Comm. Hist. Mons. N. Bucks.*, pp. 81, 164 (the motte at the latter was destroyed in 1944, yielding much twelfth-century pottery). Expenditure on digging ditches such as those near the Ascot Doilly manor site are recorded in the *Pipe Roll of the Bishopric of Winchester, 1207-8* (ed. H. Hall, 1903).

² These were most generously taken for us by

Prof. R. J. C. Atkinson in 1946. The rig-and-furrow patterns to the north of the river were first noted by Mr. B. H. St. J. O'Neil in the snow in the winter of 1946.

³ E. S. Armitage, *Early Norman Castles* (1912), fig. 1; *Roy. Comm. Hist. Mons. Middlesex*, p. 95; *Bull. Barnet Rec. Soc.* no. 10, Nov. 1957.

⁴ Carried out by Mr. Reginald Edginton and Mr. and Mrs. John Sampson.

a little glaze, and glazed pottery thus made up some 10 per cent. of the pottery in and around the tower.

The contexts of this pottery are designated by prefix letters, listed below (p. 247). The main bulk came from amongst the rubble of the tower filling, and from the latrine sump outside the north-west corner, the latter yielding most of the reconstructable vessels. The 4-ft.-wide section across the ditch on the north showed that the secondary silt contained a fair amount of pottery, and the primary silt a little.

It must be emphasized that coarse pottery of the eleventh and twelfth centuries was probably being made from local clay in a number of villages for their own use, and that severely local habits of pot-making are liable to be an undercurrent to chronological tendencies more general through a given region.¹ It is valuable to have a large collection of eleventh- to thirteenth-century pottery from Ascot, not only from the castle site but from many other parts of the village. Apart from some glazed pitchers very little indeed seems to have been brought in from any distance, and almost all pottery from the castle could have been made in the village, as was evidently being done in the thirteenth century.

Coarse pottery

The fabric of the coarse pottery from the tower excavations is very uniform, owing to the use of the local valley-bottom clay, and firing probably in small kilns with irregular control. Some vessels are fired less fully than most. The more bulbous cooking-pots D. 8, D. 10 are of slightly different fabric with finer gritting. No cooking-pots were found of the sandy fabric which became increasingly used in the Oxford region generally during the later eleventh and twelfth centuries² and such as was used for many glazed tripod pitchers; this, however, is a local peculiarity, reflecting local pot-making. To the west of Oxford generally (as also in the Bedford area) the white-flecked (see below), non-sandy fabric continued to be much used through the thirteenth century, merely a little finer and fired a little harder; this is so at Ascot (see below).

Two main types of cooking-pot were used at Ascot: (a) the widely known medieval type with bulbous body, convex base, and out-turned rim flange (not frequent, about 13 per cent. of total vessels), and (b) pots with nearly straight sides and wider at the base than at the rim. The latter are themselves of two types, (b i) those with clubbed rims and straight sides, and (b ii) those with a slight shoulder. At Ascot this latter intermediate type (b ii) is by far the most frequent, about 43 per cent. (fig. 16): it is of widespread occurrence, and must have been simple to make using coarse clays (see below). The relative frequency of these types is shown in fig. 16.

The former, (b i) (here much less frequent, about 6 per cent.), seems almost peculiar to the Cotswold area (fig. 10),³ perhaps an illustration of underlying regionalism in English medieval peasant life such as might never be revealed through documentary sources. The type was used mainly in the eleventh and earlier twelfth centuries.

¹ Cf. *Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 66.

² *Oxoniensia*, xxxiii (1958), 51, 55.

³ *Ibid.*, xiii (1948), 71-72. Type (b ii) may be found outside this area, e.g. *Trans. Leicester Archaeol. Soc.* xxviii (1952), 34.

In identifying this type (*b* i) it is necessary to have both the square base angle, and the clubbed rim with sufficient depth of side to show that there was no shoulder.¹

The vigorous shapes of (*a*) need skill and more carefully prepared material, and do not occur here in the more lumpy local fabric. Their rarity here, and the frequency of the intermediate type (*b* ii), is probably a reflection of the use by local village craftsmen of local clay without special selection or preparation.

The more bulbous pots (*a*) were presumably wheel-thrown, as indicated by their shape and the traceable regular internal rilling. It is, however, doubtful to what extent rotational forces have contributed to the shaping of the (*b*) class. On the inside of the body, instead of rilling, groups of 4-finger marks are seen, extending from under the shoulder to within about 1–2 cm. of the base. These indicate static pressure on the inside, probably by the back of the fingers, while the outside was being smoothed with the other hand. The rims at first sight bear more signs of rotational shaping, but the slanting marks often seen round the outside of the rim reveal that the necks and rims were often largely shaped by intermittent short turns (perhaps of the hands rather than of the pot), each of the slanting finger-nail marks representing one movement of the hand.² They thus reveal a shaping process largely unobliterated by subsequent continuous rotational work. These marks are even seen sometimes on the rims of the bulbous (*a*) class, showing that even these have not been modelled exclusively by continuous wheel-work. Mr. H. W. M. Hodges suggests, on the basis of experiments, that the making of the wide-based (*b*) class pots needs to be started with a few vigorous spins of the turntable: a kick-wheel was not needed, some form of simple tournette being most probably used. After this the walls would be drawn up or built up with the turntable stationary, and the rim shaped by hand-working.

The convex bases are the inevitable result of removing a large area of clay adhering firmly to the turntable.³ They have been formed by hand pressure on the inside and smoothing with the other hand on the outside, the direction of the burr on the base angle reflecting the last strokes of the potter's hand, down the side (not illustrated) or over the base (D. 1–3, D. 5, D. 7, B. 2). The base angle has sometimes been a little trimmed by a hard tool (D. 4, C. 5).

It thus seems that much of the eleventh- to twelfth-century coarse cooking-pottery may not really have been shaped by throwing on a kick-wheel, but largely by hand-work in progressive jerks with no more than an occasional spin of the turntable. By the thirteenth century, however, much of the better-quality cooking-pottery was being wheel-thrown. These conclusions are applicable generally to the western

¹ The map, fig. 10, revises that in *Oxoniensia*, xiii (1948), 71, through a more careful assessment on this basis. It seems to us possible, after a recent re-examination, that some of the vessels found in the excavation of the 'citadel' in the Herefordshire Beacon should really be considered of the twelfth-century class (*R.C.H.M. Herefordshire*, iii (1934), p. xlviii, A. 1–3, A. 6).

² A feature widely observed on English pottery of this period, e.g. Oxford (*Oxoniensia*, xxiii (1958),

figs. 11, 12, 16, 17; xiii (1948), 68, no. 4); Gloucestershire (*Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 62).

³ We are exceedingly grateful to Mr. and Mrs. Terence Crowley for the benefit of their practical experience and thought devoted to this matter, which provide confirmation of these conclusions on the extent of wheel-throwing, and on convex base formation.

half of southern and midland England,¹ though less so to the east Midlands and eastern England, where wheel-throwing was more firmly established.

Rims of the (b) cooking-pots are thickened by folding outwards or inwards at the top, the former about twice as frequent as the latter. This is to strengthen and to dispose of excess clay, and is a chance process; another sweep of the potter's fingers might have produced a different profile. Some deliberate intention is there, for the same rim form has been produced by either fold (G. 3, G. 4, D. 14; E. 13, G. 2); both can produce a fair variety. It is doubtful if these variations should be given much significance, though the more careful moulding of the type D. 4, F. 1, E. 12 has a certain elegance.² The contrast between the flange and the clubbed rim is perhaps more significant; here less than one-fifth of the cooking-pots have marked rim flanges, resulting in a high proportion for clubbed rims, observed, however, on other Cotswold sites.³

Most of the cooking-pots from the tower occupation at Ascot were fairly large, holding 1-2 gallons; there were about six small cooking-pots holding about 1 pint.

Bowls. These were parts of two ordinary bowls, the slight inturning of their rims hardly qualifying for their inclusion in the class of twelfth-century inturned-rim bowls.⁴ The third bowl was very small and refined and could have been intended as a drinking-cup, for which even these bigger bowls were sometimes used.⁵

There is one shallow vessel (B. 1) like the truncated top part of a cooking-pot, a type now well known in the west country and extending along the Bristol Channel coastlands.⁶ It is now known to the north from Kempsey (19) near Worcester,⁷ to the east from Bullingdon Green near Oxford (20),⁸ to the south from Salisbury (21),⁹ and from Christchurch (16) and Sixpenny Handley, Dorset,¹⁰ and to the west from Llantwit Major (13),¹¹ and Westcombe (22), Somerset,¹² and in Wilts. at Ashton Keynes (17).¹³ However, vessels of this shape from the Vale of Pickering and elsewhere in Yorkshire¹⁴ suggest that distribution of the type may be in reality less restricted than the map based on our present knowledge indicates. The type may be generally considered as of the twelfth century, but the fabric of a Chew Valley example suggests that it may start in the eleventh.¹⁵

The purpose of these flat vessels is not clear; many, like the Ascot one, have holes halfway up the side, made before firing, and they were presumably for drying or

¹ Cf. Beere, N. Tawton, Devon; *Med. Archaeol.* ii (1958), 127-8.

² Cf. *Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 91, fig. 1.1.

³ e.g. Filkins, *Oxoniensia*, xi-xii (1946-7), 170; or Bourton on the Water, *Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 91, fig. 1.4.

⁴ *Berks. Archaeol. J.* 1 (1947), 55-57.

⁵ *Oxoniensia*, xv (1950), 62.

⁶ Fig. 10; revising *Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 65-68.

⁷ *Trans. Worcs. Archaeol. Soc.* xxxiii (1955), opp. p. 14.

⁸ Grid ref. 046560, Ash. Mus. unpublished;

also an inturned-rim bowl.

⁹ 21; *Wilts. Archaeol. Mag.* ccvi (1938), 46, fig. 4.17.

¹⁰ We are grateful to Mr. G. C. Dunning for lending drawings of these Dorset examples.

¹¹ 13; *Bull. Bd. Celt. Stud.* xiv (1952), 14, fig. 6.7, pl. x.

¹² Shepton Mallet Museum.

¹³ Inf. Group-Capt. G. M. Knocker.

¹⁴ T. C. M. Brewster, *Two Medieval Habitation Sites in the Vale of Pickering* (1952), pp. 37, 45; Mr. L. G. Hurst informs us that the type occurs at Wharram Percy.

¹⁵ P. A. Rahtz, *Chew Valley Lake*, forthcoming.

keeping something which needed aeration. They could have been used to hold glowing charcoal to keep warm a convex-based pot placed on top, the holes being there for air-supply (a kind of chafing-dish), but this seems hardly likely.

Deep pans. The large deep pans are also a well-known class. The dating of E. 19 (from the upper half of the tower filling) has a critical bearing on the argument that the tower was demolished in the later 1170's, most likely on historical grounds (p. 228), for the class seems commonest in the early thirteenth century. But it is known in later twelfth-century contexts. C. 3 (pieces trodden into the tower floor) is of great value as showing the beginnings of this class in the middle decades of the twelfth century.¹ The fully developed type with out-flared rim flange, as our E. 19, was found in the filling of a well at St. John's College, Oxford, with a worn coin of Henry II minted 1168–80, where most of the pottery was considered to have had, a lifetime roughly that of the coin itself.² The wash of poorly fired glaze on the rim of E. 19 may be compared with that of some tripod-pitchers (e.g. E. 23), though they are usually better fired; this poorly fired glaze is commonly seen on a class of pottery current in the region during the early to mid-thirteenth century,³ though it is still not independently known how early this began. It is also found on the class of ridge-tiles seen at Ascot (fig. 19) and known from the hall at Deddington (in use from the mid-twelfth to the later thirteenth century, and on which there were repairs with a later type), and covering a house in St. Ebbe's, Oxford, in which twelfth- and early thirteenth-century pottery had been in use.

Thus it would seem to us reasonable to suggest on present evidence that the pan E. 19 may be of the 1170's, and that the pottery presents no strong argument against the demolition of the tower in the 1170's, though clearly further evidence is desirable (but see also storage-jars E. 21–23, and cooking-pot E. 13 below).

This type (E. 19) seems to be found predominantly to the west of Oxford, westwards into Somerset, though it is now known to the east of Oxford.⁴

Such pans were apparently being made at Ascot by the thirteenth century (K. 8), perhaps in the later twelfth.

Storage jars. Three rims (E. 21, 22, 23) and some softer body sherds from the upper half of the tower filling, by their size and their applied strips, are probably from storage jars. They are of standard fabric and construction, E. 21 and E. 22 being very hard fired. (Thick bases perhaps from similar vessels come from the secondary silt of the ditch.) Though these large storage jars are generally attributed to the thirteenth century,⁵ tall storage jars are now known for the twelfth century⁶ and are part of an earlier tradition.⁷ It would seem possible that these Ascot jars could have been in use during the 1170's, though the hard-fired pieces E. 21 and E. 22 (and another hard-fired vessel E. 13 on the body sherds of which are small

¹ Cf. one from among the twelfth-century pottery pre-dating the Oxford City Wall in New College, *Oxoniensia*, xvi (1951), 38, fig. 15.16.

² *Oxoniensia*, xv (1950), 44, 54, fig. 18.11.

³ See p. 259; *Trans. Bristol and Glos. Archaeol. Soc.* lxviii (1949), 30–44; lxxi (1952), 92–94.

⁴ *Oxoniensia*, viii–ix (1943–4), 104; xvii–xviii (1952–3), 220–1.

⁵ *Antiq. J.* xix (1939), 303–12.

⁶ *Ibid.* xxxi (1951), 48–49, no. 14; cf. *Oxoniensia*, xxiii (1958), 42, 69 (B. 7.2); 58, 71 (Z. 7).

⁷ e.g. eastern England, see *Proc. Cambridge Antiq. Soc.* l (1957), 53–60; south and west, Hordle, Hants, and Bath, Somerset, large vessels with applied strips, both unpublished.

spots of fully fired glaze) must be added to the pan E. 19 as vessels for which further evidence of dating as early as the 1170's is very desirable.

Ornament is simple and scanty, on less than a tenth of the coarse pottery: a little restrained finger-tipping of rims, and applied strips only on storage-vessels. Combed work is seen on a single sherd from the tower floor. The slanting marks round necks and under rims are really incidental to the structural process, and the coarse pottery is strictly utilitarian, though there is perhaps slight evidence of an incipient urge to produce satisfying shapes.

Fabric. The unglazed pottery from the tower occupation at Ascot forms a homogeneous group. It shows in fracture a white-flecked grey or black core sometimes sandwiched between reddish paler surface layers 1–2 mm. thick. The surface colours themselves vary, sometimes patchily, from brick-red through browns or greys to black. These changes depend upon the chance play of smoke and air during the later stages of firing and during cooling. The dark core is mainly due to carbonized organic matter not fully burnt out from the clay, the paler surface layers representing the extent of penetration of air into the fabric during cooling. The surface textures vary from hard and fairly smooth to clayey or pimply, but this is largely due to varying treatment of the wet clay surface and intensity of firing. With vessels of this material the fabric is not described individually, for variations in colour and texture mean little; it is called *standard* fabric throughout the report.

Some pots have been fired harder than others, but the clay matrix has never been vitrified, and many can be marked with the finger-nail. Firing was probably in the range 750°–950° C., that reached by ordinary wood firing.¹ Few vessels here (e.g. E. 13) have been fired higher.

The material is fairly uniform, only minor variations being seen in the fractures through a hand-lens or microscope. All the non-clay fragments seen are to be found naturally in the alluvial deposits of valley bottoms such as the Evenlode. Fragments may be detected of sandstone and flint or chert (derivable from glacial deposits farther north), rounded quartz grains (some iron-stained as from the Middle Lias) as well as limestone detritus (sometimes demonstrably oolitic) degraded more locally, which forms the bulk of the white flecks, the rounded particles of which are usually up to 0.3 mm.; gypsum crystals can occasionally be seen efflorescing in the fabric surface, and there are fragments of shells which may sometimes be fossil, but more often of the recent mollusca which abound in the valley-bottom deposits. These alluvial deposits, moreover, contain by natural processes sufficient organic detritus to provide the carbon for the dark core.² Yellow clays dug from the river bank have been experimentally fired without any additions and reproduce well the appearance of this Ascot *standard* fabric—the black core white-flecked with limestone detritus, the surfaces ranging from the same brick-red (which is due to oxidized iron and which is thus present in the right proportion in the predominantly Lias-derived clay fraction of the alluvial deposit), through browns and greys to black due to smoking of an otherwise burnt-out surface layer.

¹ A. O. Shepard, *Ceramics for Archaeologists* (1955), pp. 74–93; transitory subjection to higher temperatures (over 1,000° C.), fleetingly attainable

in pit kilns, has possibly occurred with some pieces.

² Cf. W. J. Arkell, *Geology of Oxford* (1947), pp. 224–5.

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There is thus no reason to suspect that the bulk of the coarse pottery (and even some of the glazed) was other than locally made, much of it in Ascot itself.

A few vessels, notably the more wheel-thrown shapes D. 8 and D. 10, are of a paler fabric, almost white when the carbon is burnt out, and smoked black in patches on the surface (easily reproducible in a flame). The paler fabric can, however, be reddened to some extent by heating in air, and the lack of colour must be due to reduction or to the state of sub-division of the iron-containing particles, rather than to a very low iron content. The fabric is not exactly the same as the *standard*, but there is no reason to consider this other than local material.

This *standard* ware, white-flecked with naturally present limestone detritus, is sometimes wrongly called 'shell-gritted', a term which should be reserved for pottery made from clay filled with shell fragments. While, however (using a hand-lens on the fracture), the rounded three-dimensional particles of limestone detritus can be distinguished from the thin platelets of recent shell, which tend to lie parallel to the pot surfaces, the two classes grade into one another, for the shell-marls, which often occur in alluvial deposits, provide a natural shell-clay mixture (the clay itself containing varying amounts of limestone detritus). Thus a source of ready-mixed material for these 'shelly' wares was available in valleys and flood-plains almost anywhere draining from limestone formations.¹ This is particularly relevant to the study of the Late Saxon St. Neot's ware² (cf. G. 1, the only piece of truly 'shell-gritted' fabric from this site).

Calcium carbonate (CaCO_3) material, so abhorred by modern ceramic-makers, is remarkably frequent in prehistoric and medieval pottery. On heating, CaCO_3 dissociates, liberating CO_2 : $\text{CaCO}_3 \rightleftharpoons \text{CaO} + \text{CO}_2$. At higher temperatures this CO_2 comes off at sufficient pressure to tend to burst the fabric when the CaCO_3 is enclosed in a fine, non-permeable clay matrix. Such flaws are not commonly seen in early pottery. This is partly due to lower firing temperatures (bursting being a danger when the CO_2 pressure approaches 1 atmosphere, i.e., above about 900°C ., table 3), and partly due to suppression of CaCO_3 dissociation by maintenance of the CO_2 partial pressure when the combustion products are not removed, under reducing conditions of firing (in clamps or kilns with poor draught).

TABLE 3

| Temperature, $^\circ \text{C}$. | 600 | 700 | 750 | 800 | 850 | 900 | 950 | 1,000 |
|----------------------------------|------|-----|-----|-----|-----|-----|-------|-------|
| CO_2 pressure, mm. Hg | 2.35 | 50 | 99 | 195 | 370 | 700 | 1,490 | 2,710 |
| (atmospheric = 760 mm. Hg) | | | | | | | | |

If, however, the clay matrix is sufficiently permeable to gases and the heating is slow, the CO_2 may escape from the fabric without bursting it; this must explain the existence of harder-fired CaCO_3 -containing fabrics in the thirteenth and even fourteenth centuries in some areas. It also shows why these fabrics went out of use

¹ Recognition of this seems implicit in the German term *Muschelgruskeramik*.

² *Proc. Cambridge Antiq. Soc.* xlix (1956), 43 ff.

in most regions at this period, when kilns with better draught giving higher temperatures were being developed. In some areas these fabrics were unavoidable, as many of the clays contained naturally a fair amount of limestone detritus.

In fact, these bursting flaws, seen as flaking, dunting, and spalling, are to be seen on the pottery from what seems a thirteenth-century pottery-making site at Ascot (K. 1-7). Hence we can now see what wasters in such fabrics really look like; they are not twisted, because the firing temperatures have not brought the clay matrix near to vitrification, but they are flaked, spalled, and dunted. This knowledge might help in the location of eleventh- to twelfth-century pottery-making sites, but wasters in bulk would be needed, for secondary fires could produce the same effects.

These fabrics containing CaCO_3 fragments, whether shell or limestone detritus, will have a 'digestive biscuit' appearance if the CaCO_3 is leached out. This may occur in acid deposits, and also in any soils if the percolating water contains CO_2 , which dissolves the CaCO_3 as the soluble bicarbonate. Hence the 'digestive biscuit' appearance may be as much a product of the context as of the fabric. In itself it means no more in relation to the pottery than a demonstration that this pottery probably contained CaCO_3 fragments, and is not significant for pottery classification. The only fragments of this appearance at Ascot are those from the thirteenth-century layer under the humus on top of the tower filling, which has no appreciable CaCO_3 overlying it. Elsewhere on the site the soil CaCO_3 or limestone fragments have been sufficient to immobilize rapidly the percolating CO_2 .

Pottery-making at Ascot

We have already suggested that much of the twelfth-century cooking-pottery could have been made at Ascot itself, and there is some positive evidence for pottery-making at Ascot in the thirteenth century.¹ The area to the south of High Street (700 ft. south of Ascot Doilly on fig. 1) has produced numerous sherds of white-flecked, light red ware fired hard under oxidizing conditions. This shows much flaking and spalling, largely due to disruption by breakdown of calcium carbonate ($\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2 \uparrow$). There were also some twisted rims (e.g. the pan (K. 4) with glaze run over the fracture). A small, fairly heavily fired structure was found in this area during the early 1930's, which might have been a kiln. This waster material is mostly of jugs with strap-handles, either plain or slashed and frilled bases (fig. 19, K. 1), and some bowls and pots with skillet-type handles (e.g. K. 4). There is also a group of thirteenth-century jug fragments from farther east along High Street which again suggests pottery-making near by. All the fabric is uniform, hard-fired and white-flecked with limestone detritus. This is a local village industry producing pottery for local use, a continuation of the activity which must have produced the bulk of the twelfth-century pottery. There were also from this area numerous twelfth-century fragments, reproducing many of the shapes found at the tower, but few of them look so obviously like wasters.

It is, however, now clear what wasters in this limestone-detritus fabric should look like—cracked, spalled, and split, which would occur at temperatures lower (say 950° – 1000° C.) than those required to vitrify and so produce twisting.

¹ Recovery of this pottery-making evidence is due to the observations of Mr. Reginald Edginton.

Contexts of the pottery

The pottery illustrated is designated by a prefix letter according to its context in relation to the structure.

- A. In loam or gravel of filling under floor of tower.
- B. Pottery from rubble filling of tower which bears mortar, and has thus probably been incorporated into the masonry, though this could be in repairs rather than in the primary structure.
- C. Trodden into floor of tower or lying immediately thereon.
- D. From latrine sump outside north-west corner; D. 5, 6, and 7 are from the lower slime layer, the rest from the upper.
- E. From rubble filling of tower.
- F. From outside tower, other than at north-west.
- G. From secondary silting of ditch.
- H. Pottery from thirteenth-century layer overlying the rubble filling of the tower.
- J. From the vicarage grounds (fig. 1).
- K. Pottery from the pottery-making area north of High Street (fig. 1).
- L. Pottery from the mound at Ascot Earl (fig. 1).

Relation of the pottery to the tower occupation. A little of the pottery pre-dates the building of the tower (A. 1, 2). Of the main bulk, there is no difficulty in associating with the occupation of the tower the pottery trodden into or lying on the basement floor (C. 1-6), and that in the two layers of the latrine sump (D. 1-18) at the north-west corner. Much pottery (E. 1-28) was, however, distributed at random through the stone rubble filling of the tower; this stone must have fallen at the demolition of the tower, and the pottery must have been in use on the upper floors, some perhaps broken and pieces discarded in corners. The very presence of so many cooking-pots in the latrine sump shows that they were continually being brought into the tower, used for cooking, serving food, or other purposes, broken and discarded.¹ Hence it is reasonable to regard the pottery scattered through the rubble filling of the tower as having fallen from upper floors during demolition. The same is probably true of the pottery in the secondary silt of the ditch, which contains stone apparently from the demolition. The primary silt in this section to the north yielded only three pieces of pottery, all body sherds, of *standard* fabric.

Coarse Pottery: descriptions

Fig. 7. Pottery pre-dating the building of the tower; found in the gravel and loam filling below the tower floor.

- A. 1. Rim and upper part of body of bulbous cooking-pot, of fairly fine textured, moderately fired fabric with sand of rounded grains up to about 0.5 mm.; buff to grey surface layers and black core: a fabric otherwise hardly found on the site.
- A. 2. Part of shoulder of bulbous cooking-pot, of hard-fired, rather coarse, black to

¹ A few sherds from the tower filling were shown to fit others from the latrine sump.

grey fabric with angular flint (or chert) fragments, some up to 4 mm. This fabric was otherwise found on the site only as a few stray fragments; it is that of the Oxford bulbous pitchers, some of which were found in pre-1070 contexts on the Oxford Castle site (*Oxoniensia*, xvii-xviii (1952-3), 86, nos. 37, 38), but was much used for cooking-pottery in the twelfth century nearer the Berkshire chalk country.

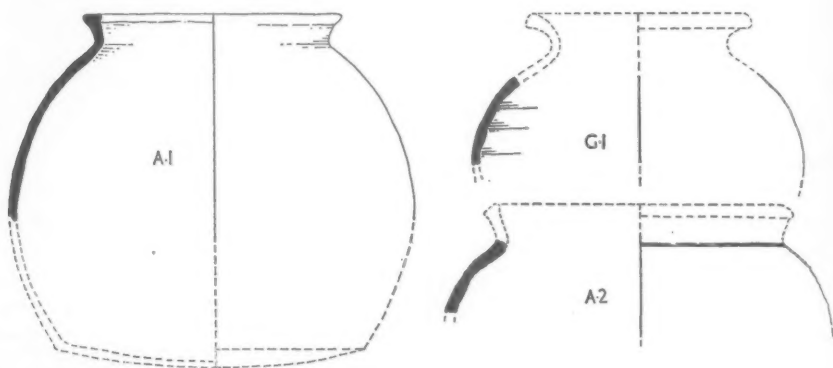


FIG. 7. Pottery from Ascot pre-dating the tower (A. 1, A. 2), and of St. Neot's type (G. 1) from the secondary silt of the ditch. ($\times \frac{1}{4}$)

- G. 1. From the secondary silt of the ditch came one piece, unique on the site, in which the regular horizontal rilling can be seen inside, by contrast with the finger-pressure marks inside much of the Ascot pottery. The fabric is filled more with white platelets than lumpy particles of limestone detritus. It has, in fact, the aspect of some Oxford pottery related to St. Neot's ware (cf. *Oxoniensia*, xvii-xviii (1952-3), 88, no. 45; xxiii (1958), figs. 10-12); but this connexion must be treated with reserve here, a dozen miles outside its known area of distribution. (*Dark Age Britain* (ed. D. B. Harden, 1956), p. 255; *Proc. Cambridge Antiq. Soc.* xlv (1956), 45.)

Fig. 8. Complete profiles of cooking-pots from the latrine sump outside the north-west corner of the tower.

- D. 1-6. Cooking-pots of standard fabric made from valley-bottom clay containing limestone detritus; D. 3 is harder than the others and shows some spalling due to decomposition of the calcium carbonate on firing (to above c. 900° C.). D. 4 is of finer-textured, hard-fired black to dark brown fabric, much of it black all through. The rim thickening on each is by an outward fold.

Ox. 1 is from 1 Queen Street, Oxford, of fabric similar to Ascot standard.

Fig. 9. Cooking-pots of straight-sided (D. 7) and globular (D. 8, D. 10) form and flange rims from the latter; rim thickening is by inward fold, and a variety of simple finger tipping is shown. All except D. 8 and D. 10 are of the standard fabric, fairly hard fired; E. 1, E. 2, D. 9, D. 11, D. 12 have brick-red surfaces over a grey core, D. 11 being more clayey. D. 8 and D. 10 are

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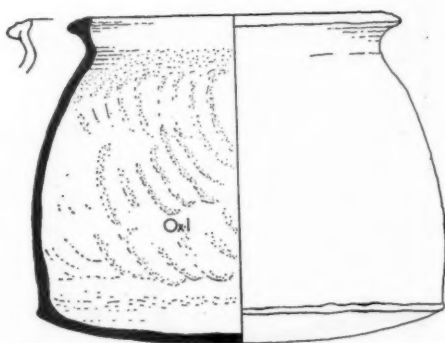
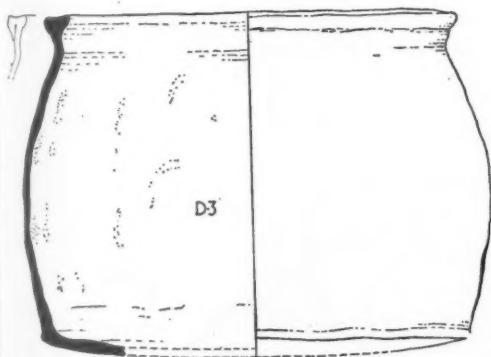
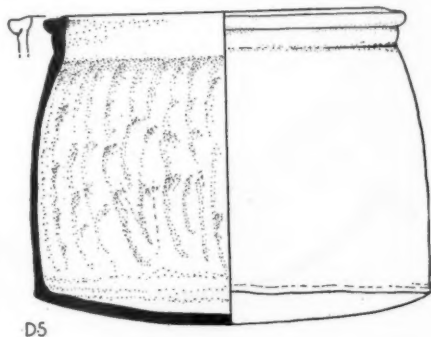
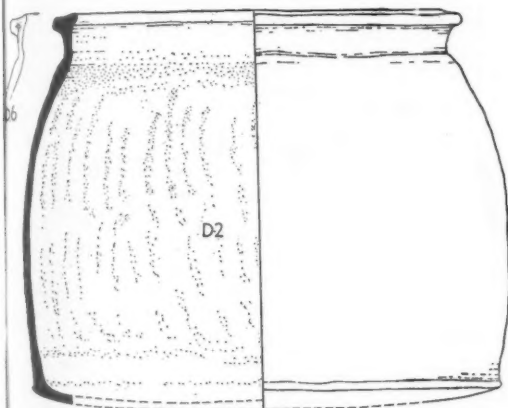
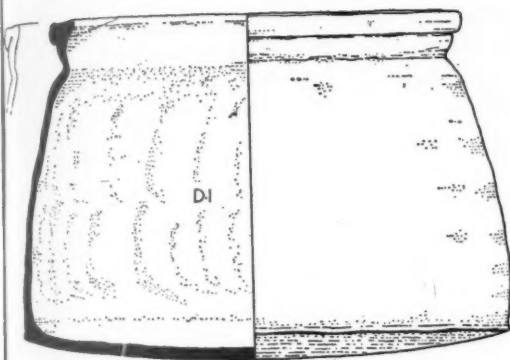


FIG. 8. Cooking-pots from the latrine sump at Ascot (D. 1-6) and from 41 Queen St., Oxford (Ox. 1). ($\times \frac{1}{4}$)

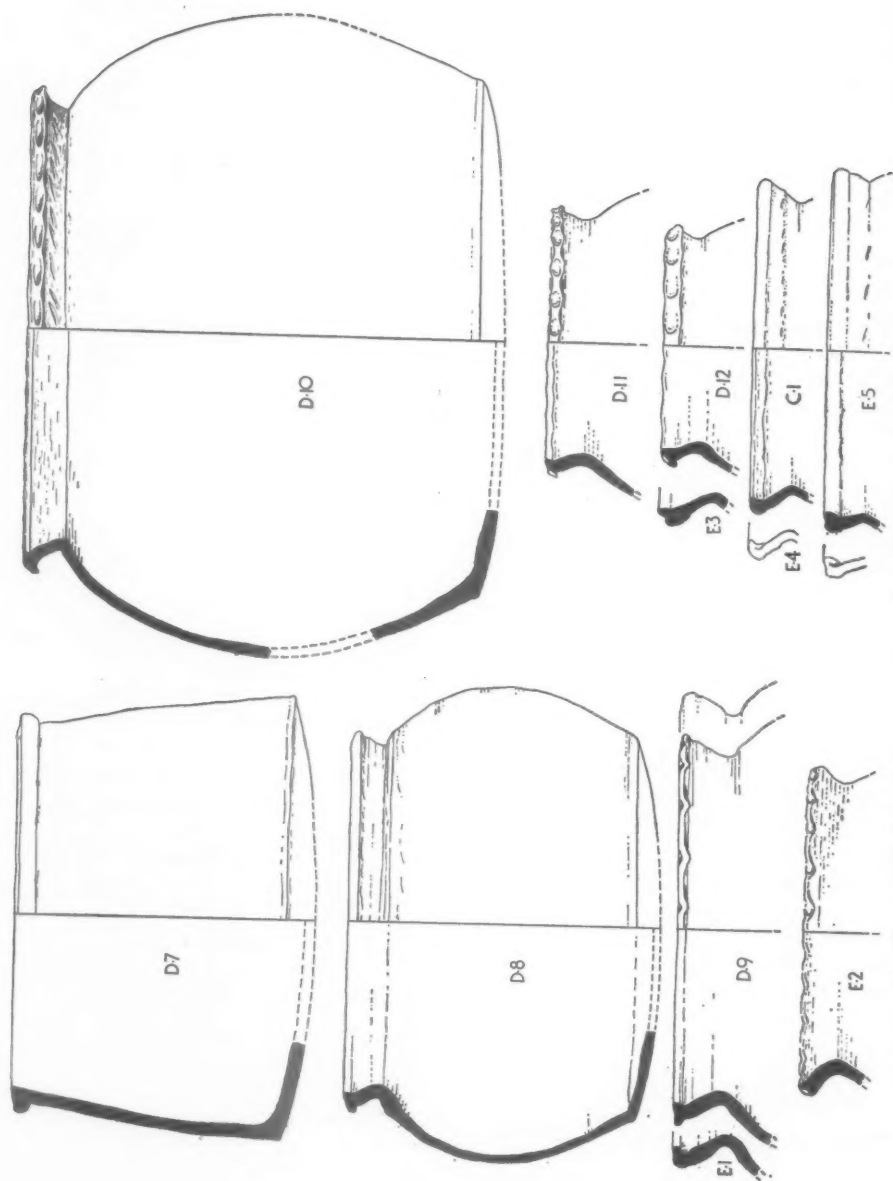


Fig. 9. Cooking-pottery from the tower at Ascot. For distribution of the type D. 7 see fig. 10. ($\times \frac{1}{2}$)

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of a finer fabric, D. 8 brown but black inside, D. 10 almost white but smoke-blackened superficially in a few places. D. 10 contains a little more quartz sand than usual.

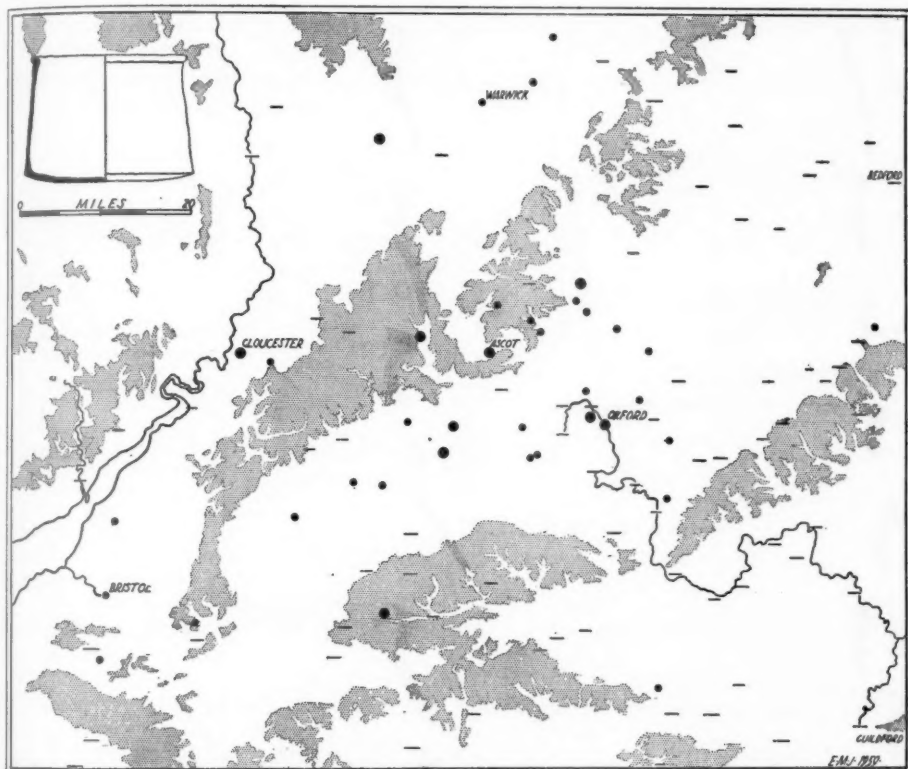


FIG. 10. Distribution of a late eleventh- to early twelfth-century cooking-pot type, with straight nearly vertical sides and clubbed rim. The larger spots represent more than three examples recorded. The dashes— are negative evidence, representing fair-sized groups of eleventh- to twelfth-century pottery in which this cooking-pot type does not occur.

Fig. 11. Rims of cooking-pots of shape (b i) as in fig. 8; all of standard fabric, mostly well fired. D. 13 is softer with black core and brown surfaces; E. 13 is fired very hard, almost vitrified, and has a brick-red outer and pale grey inner surface. There are also five body fragments with some spots of thin transparent glaze on the outside. G. 3 and G. 4, and E. 13 and G. 2 show how the same final rim-form may have been achieved by either an outward or an inward fold. E. 7 is of hard-fired even grey-brown fabric; E. 8 and E. 9 are slightly more gritty than most. F. 1 was in the clay of the inner bailey bank at its west corner, and two sherds of similar standard fabric were in the substance of the paddock bank 200 ft. to the north-west.

Fig. 12. *Bowls and small pots*

C. 2. Bowl of hard grey-brown lumpy standard fabric, blackened on outside from use in fire.

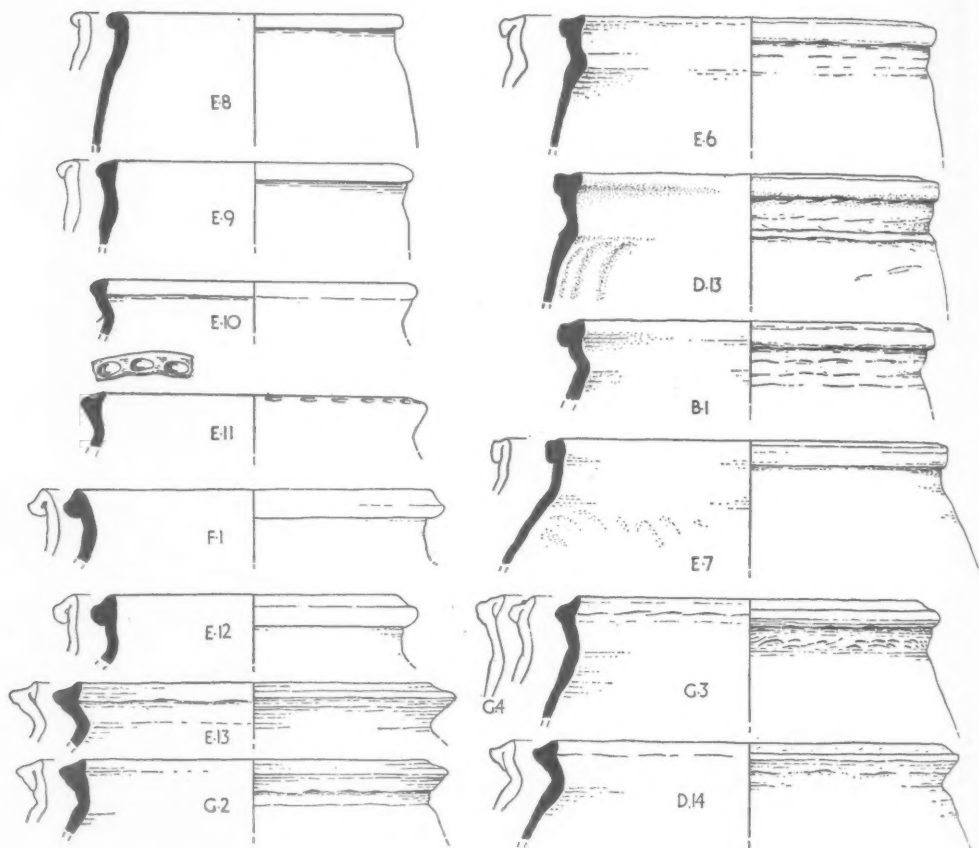


FIG. 11. Cooking-pot rims from contexts related to the tower and mound at Ascot. ($\times \frac{1}{2}$)

- E. 14. Small pan of moderately hard standard fabric, brown with grey core; not blackened outside by use for heating on fire: five pieces distributed through lower layer of tower filling about 3 in. above floor. It is a restrained version of the inturned-rim bowl type (*Berks. Archaeol. J.* vol. 50 (1947), 55).
- E. 15. Very small carefully made bowl of fairly hard not lumpy fabric, red with grey core.
- B. 1. One piece of this flat type came from middle of the tower filling and had

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much mortar on it; moderately hard light reddish-brown fabric all through: there remains part of the hole made in the side before firing. For the type see *Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 65-68.

- G. 5. Profile compiled from three overlapping sections; small pot of fairly fine white-flecked fabric with grey core and brown surface blackened outside from below shoulder. The base angle has been tool-trimmed.
- E. 16. Small pot of blackish moderately hard fabric, lumpy on inside but smoothed by slurring on the outside.

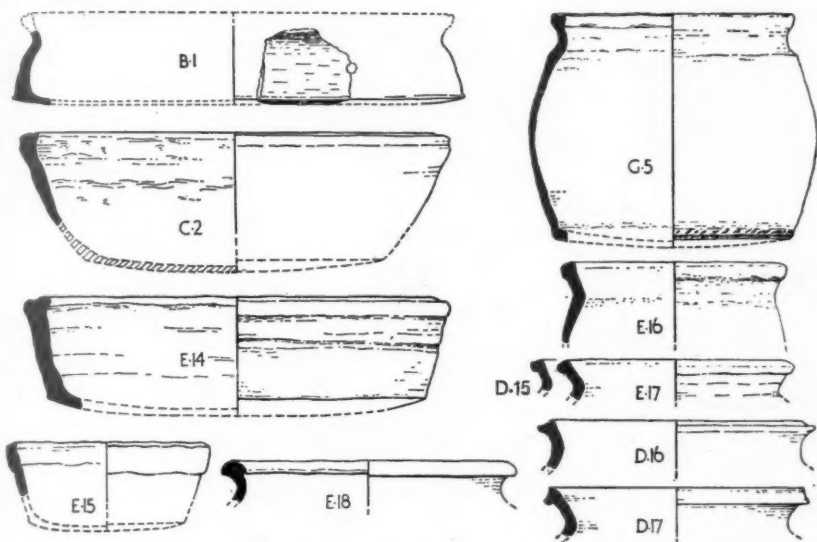


FIG. 12. Bowls and small cooking-pots from contexts associated with the tower and mound at Ascot. ($\times \frac{1}{4}$)

- E. 17, D. 15-16. Small pots with outward folded rim, of fairly fine hard standard fabric, grey with brown to black surfaces.
- D. 17. Hard-fired standard fabric, the only example from the site of this more assertively rotational rim-flange: found in contact with the under side of a large piece of ashlar in the latrine pit at the north-west corner.
- E. 18. Of hard harsh-surfaced fabric from which grits have come out to leave holes; it contains limestone detritus but also more quartz particles than usual, both rounded and angular, a fairly common fabric for twelfth-century pottery nearer Oxford. This is almost the only example from the site of a rim in which the inward fold is left thus unobscured, as is so common at Lydney (*Antiq. J.* xi (1931), 257) or Whittington (*Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 64); compare also E. 21.
- Fig. 14. Large pans and storage-jars. All come from the upper half of the tower primary filling, except C. 3 and the rim fragments of E. 19.

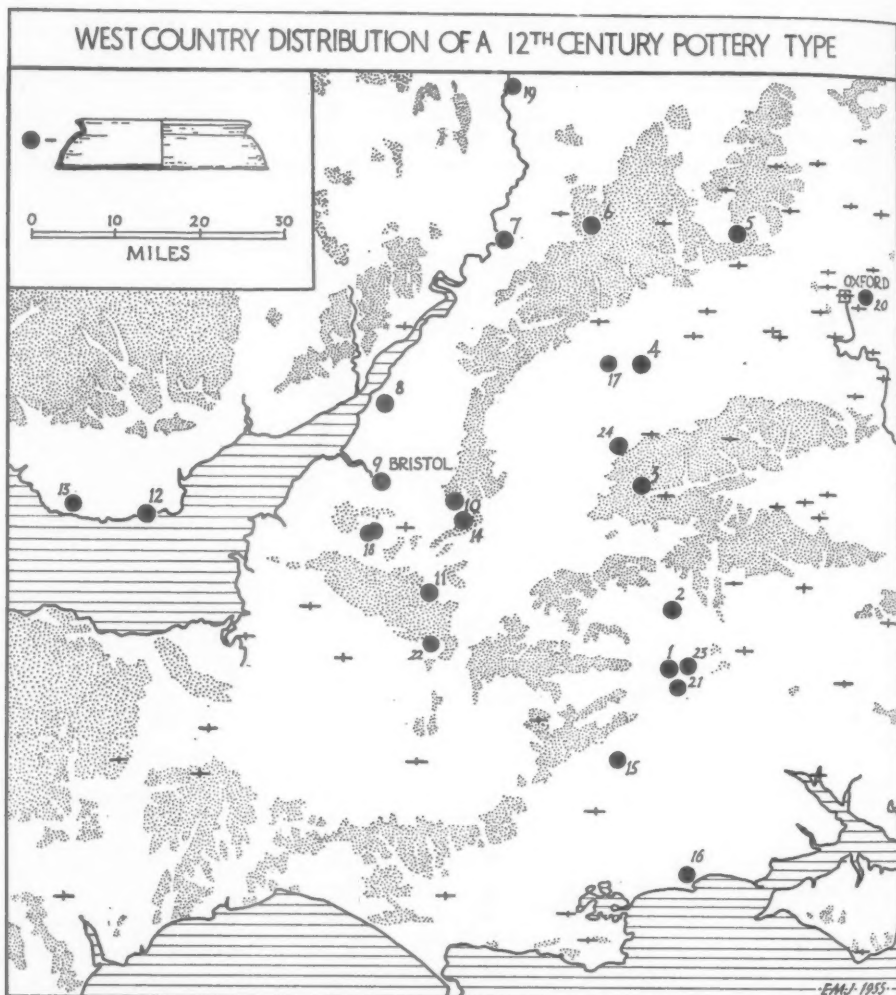


FIG. 13. Distribution of an eleventh- to twelfth-century flat vessel type. The dashes \rightarrow represent negative evidence (as in fig. 10). For the site-numbers, see *Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 65-68, and here, p. 242.

- E. 19. Eight pieces of a large pan; the small rim fragments lay 1-3 in. above the tower floor, the rest (larger) were in the top foot of stone debris filling of the tower. It is of moderately hard but slightly crumbly standard fabric with 1-2 mm. thick buff surface layers sandwiching a thin grey core. It has a very sparse wash of greenish glaze applied round the inside of the rim-flange,

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poorly fired so that some lead remains as opaque yellow oxide untransformed to silicate: a spectrogram showed it to contain tin of the order 1-2 per cent. of the lead. (For such glazes see *Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 88-97.)

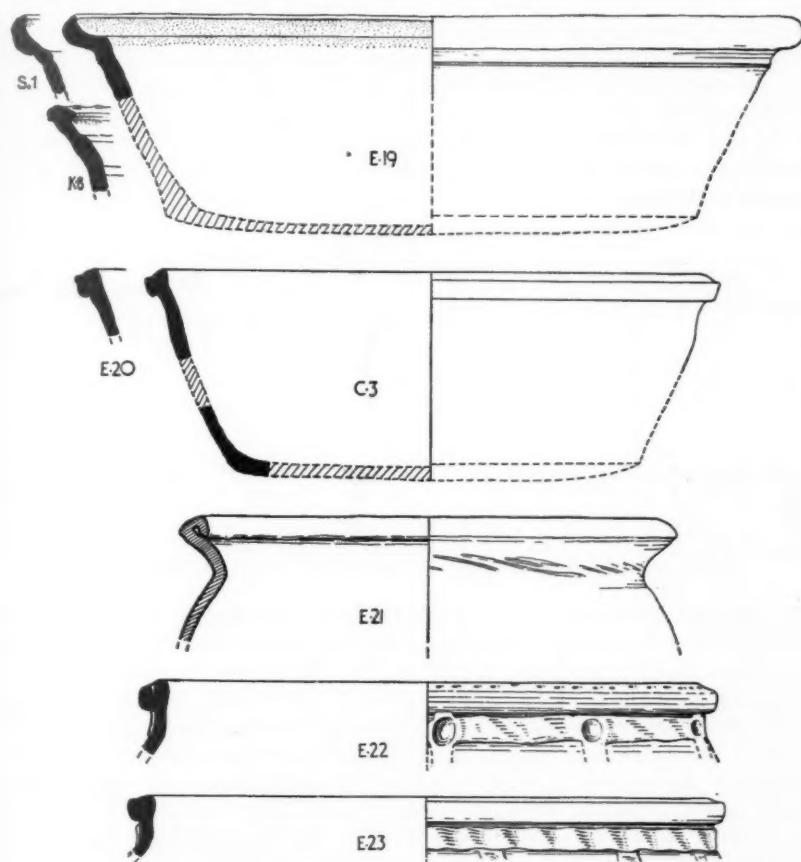


FIG. 14. Large pans (C. 3, E. 19, E. 20, K. 8) and large storage-jars (E. 21-23) from Ascot (the rim shown top left is from Seacourt, Berks.). ($\times \frac{1}{4}$)

A comparable piece (though with no traceable glaze) came from the present vicarage garden. S. 1 from Seacourt has the glaze (though a little better fired) and is even more comparable. K. 8, badly flaking and probably a waster and without trace of glaze, suggests that the type was being made at Ascot by the early thirteenth century.

C. 3. Parts of rim and base of moderate-sized deep pan, from on the floor of the

tower, some sherds trodden in. It is of hard fairly fine close-textured standard fabric, but slightly harsh with pimply surfaces grey inside and buff outside.

E. 20 is a rim of a similarly shaped pan in less harsh-feeling fabric, from the filling of the tower 10 in. above floor.

E. 21, E. 22, E. 23 must be from large heavy storage-jars, as shown by their size, heaviness, and applied finger-pressed strips (cf. *Antiq. J.* xix (1939), 303 ff.). E. 21 and 22 are of hard-fired standard fabric light red to grey. E. 21 rim-formation by an inward fold is very clearly preserved; that of E. 22 was an outward fold. E. 23 is of less hard-fired standard fabric, light red with grey core, and there are also from the tower filling thick brown-surfaced fragments with both narrow and wide applied strips, representing probably a further two storage-jars.

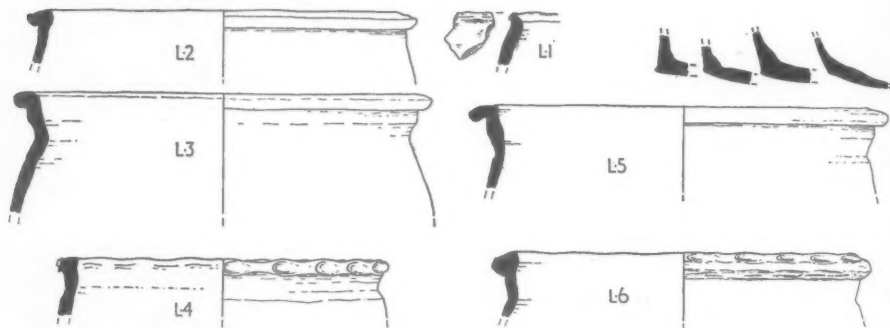


FIG. 15. Pottery from the site of the mound and bailey at Ascot Earl. ($\times 4$)

Fig. 15. Eleventh- to twelfth-century pottery from the motte at Ascot Earl. These forms are nearly, though not all, exactly matched at Ascot Doilly, but little can at present be inferred from the differences. Nine base-fragments show the full range of base angle. L. 2, 4, and 5 are of moderately hard standard fabric; L. 3 and 6 are less hard-fired, with light red surfaces and black core flecked white. The small fragment L. 1, fairly hard close-textured brown to black, is probably of the Iron Age (cf. that found in 1957 under the rampart at Lyneham Camp, 1 mile to the north-west).

Glazed pottery (figs. 17-19)

Parts of some ten glazed vessels were found, about 10 per cent. of the total vessels from the site. D. 18 was from the latrine sump outside the north-west corner of the tower, and C. 5 was trodden into the tower floor; all the rest were on the tower floor or in its filling. Three are of harsh sandy fabrics (not otherwise found on this site), and the rest are of hard-fired more clayey fabrics with limestone detritus, like the coarse pottery. There were also parts of four or five unglazed jugs of the latter fabric, the surfaces well smoothed probably by working with wet hands. These Ascot pitchers are a most valuable series, showing what was in current use during the period from about the 1140's to the 1170's.

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All the glazes are lead silicate glazes (shown spectrographically), in many instances so patchily applied as to be useless for their primary purpose of making the vessel impermeable to water or oil. The potters must have applied the glaze to their wares unthinkingly, which is perhaps surprising considering that these pitchers seem the first glazed vessels to be made in the region.

The three pitchers of sandy fabric (especially those with finger-pressed vertical applied strips over girth-grooves (D. 18)) are typical of many pitchers found in Oxford, whereas those of the other fabric (vessels rarely found there) are more common in the area westwards from Oxford, typical of such places as Avebury. Tripod pitchers of the sandy wares are again found in Gloucester. It is not yet clear where the Oxford harsh sandy glazed pitchers were made; there is so far no evidence for pottery-making at Brill, Bucks., before the thirteenth century, and a place not far from Oxford may be suspected.

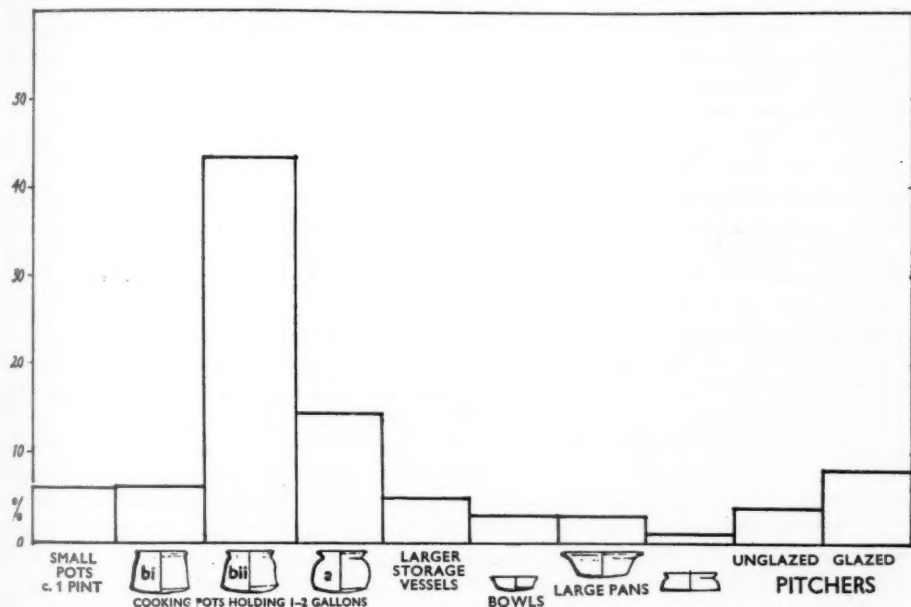


FIG. 16. Diagram showing frequency of occurrence (in percentage of total pottery) of the various types of vessels at the castle site at Ascot Doilly, Oxon.

D. 18, with its girth-grooves and applied strips, is typical of many Oxford vessels, and has been restored accordingly, as a tripod with free-standing tubular spout, and strap handle with twisted rope of clay inserted up the back.¹ Such pitchers are also known from Aylesbury and Reading, Deddington Castle, and many places near Oxford. Another style with D-spout attached to the rim is commonly found to the

¹ Cf. fig. 17, Oxf. 2; *Oriel Record*, Jan. 1942.

south and west of Oxford (e.g. Cirencester, Swindon, Devizes, Old Sarum), but not in Oxford itself.

C. 5 illustrates another principle of tripod pitcher construction, the building of the neck as separately added rings. This has now been noted on pitchers from Oxford,¹ Gloucester, Glastonbury, Deddington, and Aylesbury, and is probably even more widespread. It is a device for making a large bulbous body without having to carry up a large reserve of clay for the neck. The junctions have sometimes been partly obscured (as a good potter should do), but are usually traceable (*Oxoniensia*, xxiii (1958), pl. II).

These glazed tripod pitchers seem the earliest locally made glazed wares in the Oxford region (though fine glazed wares were earlier imported from farther north-east).² They seem to have been first used here in about the 1120's or 30's; they were used in the uppermost level sealed by the building of a vaulted cellar c. 1150-70 on the Clarendon site, Oxford,³ and at Deddington Castle they occurred in the top two of seven floors sealed by the building of the hall in which the earliest stonework is of about 1150-70. At Old Sarum association in a pit with a fresh coin of William I has suggested that the type was in use there before 1100.⁴ At Ascot they probably date from c. 1140-70.

At St. John's College they occurred in a well-filling with a worn coin of Henry II minted 1168-80, where their active lifetime was probably about that of the coin,⁵ and they evidently remained in use into the early thirteenth century, for they were found associated with jugs having finger-pressed bases (and even had such base angles themselves) on the New Bodleian site.⁶ The best earliest dating for this finger-pressed base is still White Castle, Monmouth.⁷ Thus pitchers of tripod type were in use for nearly a century (c. 1120-c. 1220), a period during which with further study it ought to be possible to detect some minor stylistic changes.

One pitcher of the limestone detritus fabric (E. 25) illustrates a technique of handle-construction, where a strap is wrapped round two or three rods of clay, which are inserted at the top through the neck of the vessel. The Ascot handle is exactly paralleled by one in the same fabric and thin glaze from Avebury, and one with three strands, in sandy fabric, comes from square Z on the Clarendon Hotel site, Oxford (fig. 18). From here also is a handle with the rods obscured by pressing in, a widely used construction. The twisted rope handle is also a version of the same structure (fig. 17, Oxf. 2). As with the composite neck construction, it is desirable to know the full geographical range of these technical points.

Pitchers of limestone detritus fabric, with thin wash of greenish glaze, are in general paralleled in the area west of Oxford. One carefully made large pitcher E. 24, with shallow vertical channels marvered into the partially dried surface,⁸ is difficult to parallel, but the fabric suggests that it should be sought to the west of Oxford.

¹ Oxf. 1; *Oxoniensia*, xxiii (1958), figs. 19, 21; pl. II.

² *Oxoniensia*, xvii-xviii (1952-3), 96; *Dark Age Britain* (ed. D. B. Harden, 1956), 254-6; *Proc. Cambridge Antiq. Soc.* li (1958), 38 ff.

³ *Oxoniensia*, xxiii (1958), 54-55.

⁴ *Antiq. J.* xv (1935), 189.

⁵ *Oxoniensia*, xv (1950), 44 ff.

⁶ *Oxoniensia*, iv (1939), 98, fig. 22 D, E; cf. also *Oxoniensia*, xxiii (1959, no. Z. 21).

⁷ *Antiq. J.* xv (1935), 323-34.

⁸ Cf. A. O. Shepard, *Ceramics for Archaeologists* (Washington, 1956), p. 189, fig. 18 e.

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E. 23 again has no good parallels around Oxford, and they must be sought farther west but are not easy to find.

Of the unglazed jugs, such tripod pitchers as E. 27 are not found in Oxford, but occasionally are found farther west (the vessel may have been glazed higher up). Unglazed jugs in general are, however, not uncommon in Oxford, both with strap and bar-handles, where they are of the twelfth century.¹ Oxf. 5, from the late twelfth-century well-filling at St. John's College (not in the original report), may be compared with F 1; and E. 26, in fabric and form, with the large pitcher from St. Giles' churchyard, Oxford.²

Analysis of glazes. The rather opaque yellow glazes on some of the later twelfth- to early thirteenth-century pottery, found over a wide area west of Oxford, are peculiar in that they often contain a fairly high proportion of tin, of the order 5-10 per cent. of the lead content, as shown spectrographically.³ The opaqueness is probably due to a fine suspension of stannic oxide, SnO_2 , as in the tin glaze on Islamic,

TABLE 4

*Spectrographic Analyses of Glazes from Ascot Doilly**

| | Pb | Sn | Cu | Ag | Fe |
|--|------|------------------|-------------|-----------|---------|
| D. 18 Oxford type tripod pitcher | ++++ | very faint trace | faint trace | traceable | + |
| E. 25 Pale greenish opaque glaze | ++++ | + | — | traceable | present |
| E. 19 " " " " " | ++++ | + | — | traceable | present |
| J. 1 Pale yellowish opaque glaze, early thirteenth century | ++++ | + | trace | + | present |
| K. 8 Yellowish opaque glaze on ridge tile | ++++ | + | trace | + | present |

* N.B. These spectrographic analyses are only semi-quantitative. They were carried out by one of us (E. M. J.) in the spectrographic laboratory, The London Hospital.

Majolica, or Delft wares, though occasionally it can be seen (as in K. 4) to be due to the admixture of very fine clay with the glaze material before application, or the use of a fine under-glaze white slip, as on some pottery from Avebury. The yellow colour is apparently due to iron (ferric) derived from the reddish body clay, though occasionally perhaps to poor firing, leaving some lead oxide uncombined with silica. This yellow opaque glaze may not be intentional, but due to the use of solder or pewter as a source of the glazing material. This characteristic glaze does seem to have a limited distribution, though evidently made in a number of places. Copper seems hardly to have been used to produce green glazes (uniform or speckled) until well on in the thirteenth century outside eastern England; before that only dull dirty greens were obtained from the iron under reducing conditions.

¹ *Oxoniensia*, xv (1950), 50-52; cf. *Proc. Cambridge Antiq. Soc.* xlix (1956), 54-56.

² *Oxoniensia*, iv (1939), pl. x. 1.

³ *Trans. Bristol and Glos. Archaeol. Soc.* lxxi

(1952), 93; now a little of this type of glaze has come from the early waster dumps at the Brill kilns, Bucks., *Rec. Bucks.* xvi (1933-4), 39-42.

Glazed Pottery: descriptions (figs. 17 and 18)

- D. 18. From the latrine pit on the west side of the north-west corner of the tower. Much of body, but none of base, handle or rim, of baggy pitcher of fairly hard orange-buff sandy ware, a little friable, with sand-paper texture. It carries a fairly even pale orange-brown glaze, showing occasional patches of pale olive, and thinning in places to a few bare patches. Such glaze colouring is the result of applying a clear lead glaze to the fabric, the pale olive resulting from chance play of reducing flames or conditions in firing or cooling. It is decorated with shallow girth-grooves (the only real evidence for wheel-work) over which have been applied eight finger-pressed vertical clay strips, the finger-marks on the interior from pressing them on, obscuring any previous rotation marks. It is thus uncertain whether such vessels (with their added necks) were shaped by wheel-throwing.
- D. 19 (pl. xxxix *b*). From lower filling of tower: parts of rim and body of baggy pitcher, perhaps a tripod, of fairly hard-fired sandy pale grey fabric with some flecks of carbonaceous matter: pale grey to buff surface layers and a very sporadic olive-green glaze on the outside. There are signs of a little tool-trimming of the partially dried clay on the outside: decorated with wavy lines made probably with back of a finger-nail.
- E. 23. From tower filling, parts of pitcher with convex base, of hard close fabric containing some rounded quartz particles up to about 0.5 mm.; dark grey core and buff to grey inner surface; outer surface black except where covered with dark olive-green glaze. Some glaze on inside of base, showing in places globules of metallic lead, probably due to the application of lead filings for glazing instead of galena, or to reduction during firing. Decorated with applied vertical strips of triangular section, notched at half-inch intervals: between these strips are series of impressions of a fine 8-toothed comb.
- E. 24. From the tower filling, a few pieces in floor. Numerous body fragments, but no part of rim or handle, of a wide pitcher of fine grey fabric containing some fine limestone detritus, a little being dissolved out to give a pitted inner surface, which is buff. The outside carries an even glaze, orange-brown to dark olive-grey. It has fine combed grooves round the neck. On the shoulder is shallow rilling, and below this vertical shallow channels have been pressed and smoothed down with a hard tool or the finger-nail in the partially dried clay; at the middle of the body these broaden and die out. The lower part of the body shows some tool trimming. No precise parallel can be quoted. The shape is difficult to reconstruct with certainty from so many small fragments, but the low widest girth of the body does seem genuine and must have resulted in a long strap handle.
- Oxf. 2 is from Oriel College, Oxford. (*Oriel Record*, Jan. 1942.)
- C. 5. Two pieces of neck and shoulder of pitcher, trodden into floor of tower: of harsh sandy fabric with greyish core and buff surfaces, with even orange glaze on outside. A few particles of heavy iron content on the surface have given spots and patches of deep brown in the glaze. Ornamented with rilling below

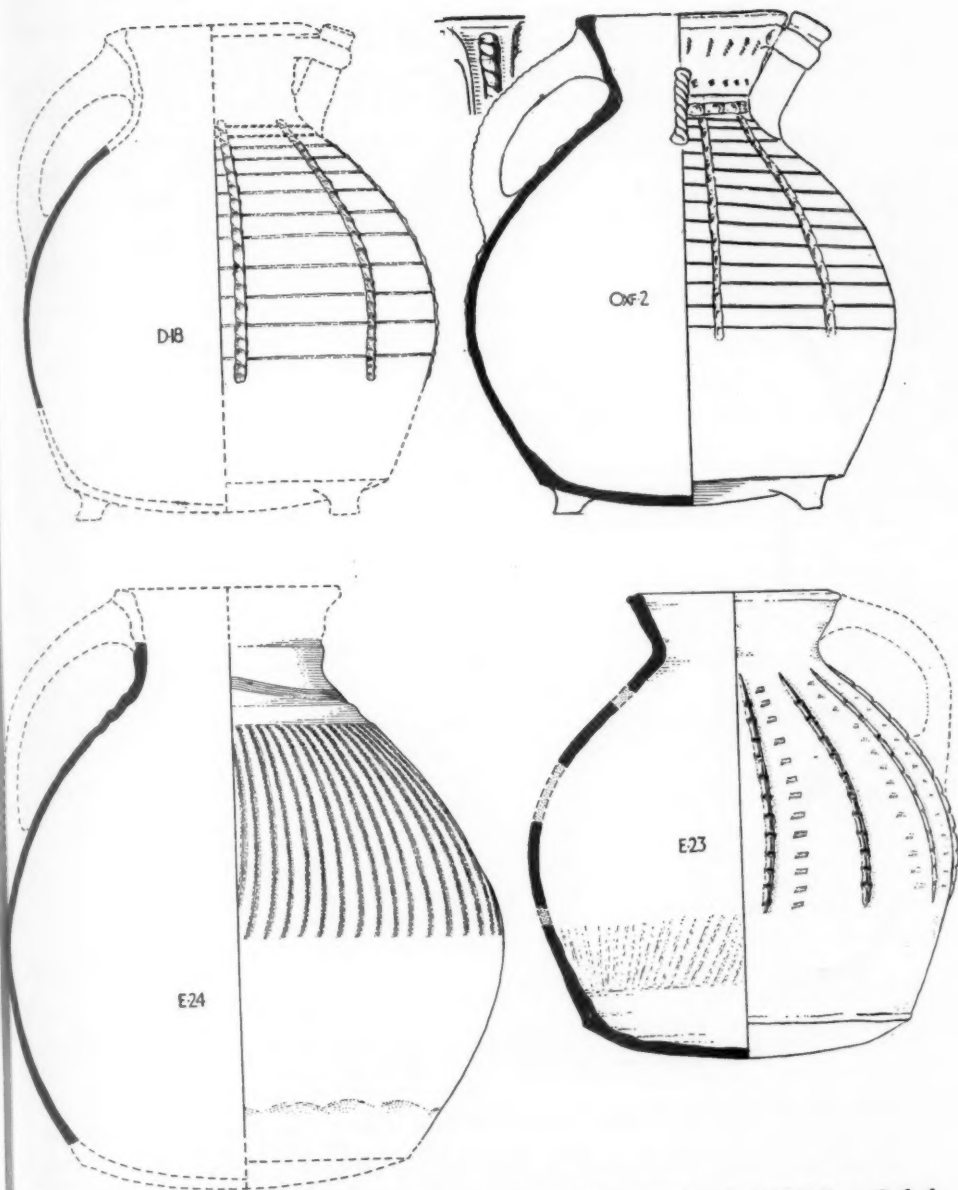


FIG. 17. Glazed pitchers from the tower at Ascot (D. 18, E. 23, E. 24) and from Oriel College, Oxford (Oxf. 2). ($\times \frac{1}{4}$)

neck, below which are zones of pairs of wavy lines. The neck has been built up by hand with added rings of clay (see p. 260, and Oxf. 6).

E. 25. From tower filling, handle and part of rim of fairly hard dark grey fabric, with pale buff inside surface, and on the outside a thin patchy olive-green glaze.

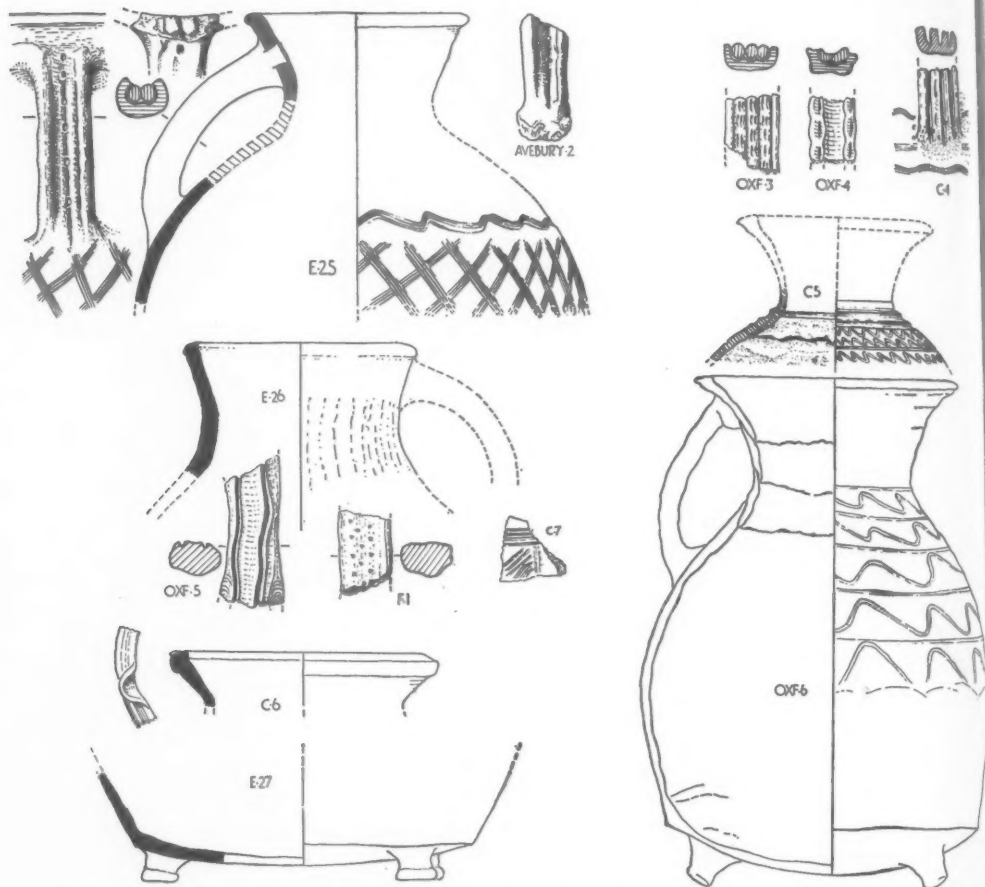


FIG. 18. Glazed (E. 25, C. 4, C. 5, C. 7) and unglazed (C. 6, E. 26, E. 27, F. 1) jugs from the tower at Ascot, and comparanda from Oxford and Avebury. ($\times \frac{1}{2}$)

The fabric contains small water-rounded quartz particles and limestone detritus up to about 0.25 mm. Below the base of the handle the body has cross-hatched lines of a fine-toothed comb. The handle has been made by wrapping a strip round two rods of clay 1 cm. in diameter, and inserting the ends of the rods through the neck of the jug, smoothing over the junction,

and luting on to the body at the lower end. There are six jab-marks in a row at the back of the handle.

- C. 4. From tower filling, lower junction of pitcher-handle of grey clayey fabric, fairly hard-fired, containing some limestone detritus, with buff interior surface pitted through dissolving out of limestone particles; fairly even olive-green glaze on outside. The handle has three deep channels down the back, and the body is decorated with wavy lines made with a fine 4-toothed comb. There are irregular jabbings with a pointed stick over the back of the handle. A number of other fragments trodden into the tower floor probably come from this jug.

There are in addition some two dozen fragments of similar glazed wares, some of which have probably come from the above vessels, though others seem to represent one or two further glazed pots.

Four unglazed pitchers appear to be represented; it is possible, though not probable, that some of these pieces are in reality unglazed parts of the glazed pitchers already noted.

- C. 6. From a shallow hole in the tower floor came part of the rim of an unglazed pitcher in clayey reddish to buff ware with crushed shell or limestone, similar to that of many of the cooking-pots. These unglazed pitchers in clayey ware are known to have been in use in Oxford through much of the twelfth century.¹
- F. 1. From the clay packing beside the stone abutment at the south-west corner of the tower came a fragment of a handle of irregular oval section, from an unglazed pitcher. It is of a hard-fired grey ware with dark grey to buff surfaces, filled with some fine crushed shell or limestone. Jabbing-marks with a pointed stick are arranged down the back.
- E. 27. From the tower filling came portions of an unglazed base, including the three squat feet, of a tripod pitcher of fairly hard-fired clayey grey ware with buff outer surface, with a little crushed shell. This type does not normally occur unglazed, and this find suggests a local imitation of the glazed tripod pitchers brought in from more distant markets.
- Fig. 19. Thirteenth-century pottery from Ascot-under-Wychwood. H, from over the surface of the tower filling, just under the present humus on the mound; K, from the area north of High St., from the sites of houses and apparently a pottery manufactory (fig. 1); J, from the Vicarage grounds (fig. 1).
- H. 1. 15 fragments of a small biconical jug of fine buff fabric with good olive glaze over upper part, and thin applied brown stripes. The type was in common use in the Oxford region, and found sporadically west into the Cotswolds and east and north round Bedford and Northampton (*Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 73-75, map). These pots were made at Brill, Bucks., but perhaps elsewhere as well.
- H. 2. Cooking-pot rim of hard fine-textured white-flecked fabric, a type current in the middle decades of the thirteenth century (*Trans. Bristol and Glos.*

¹ *Oxoniensia*, iv (1939), pl. x, nos. 1 and 2; *ibid.* xv (1950), 50-52.

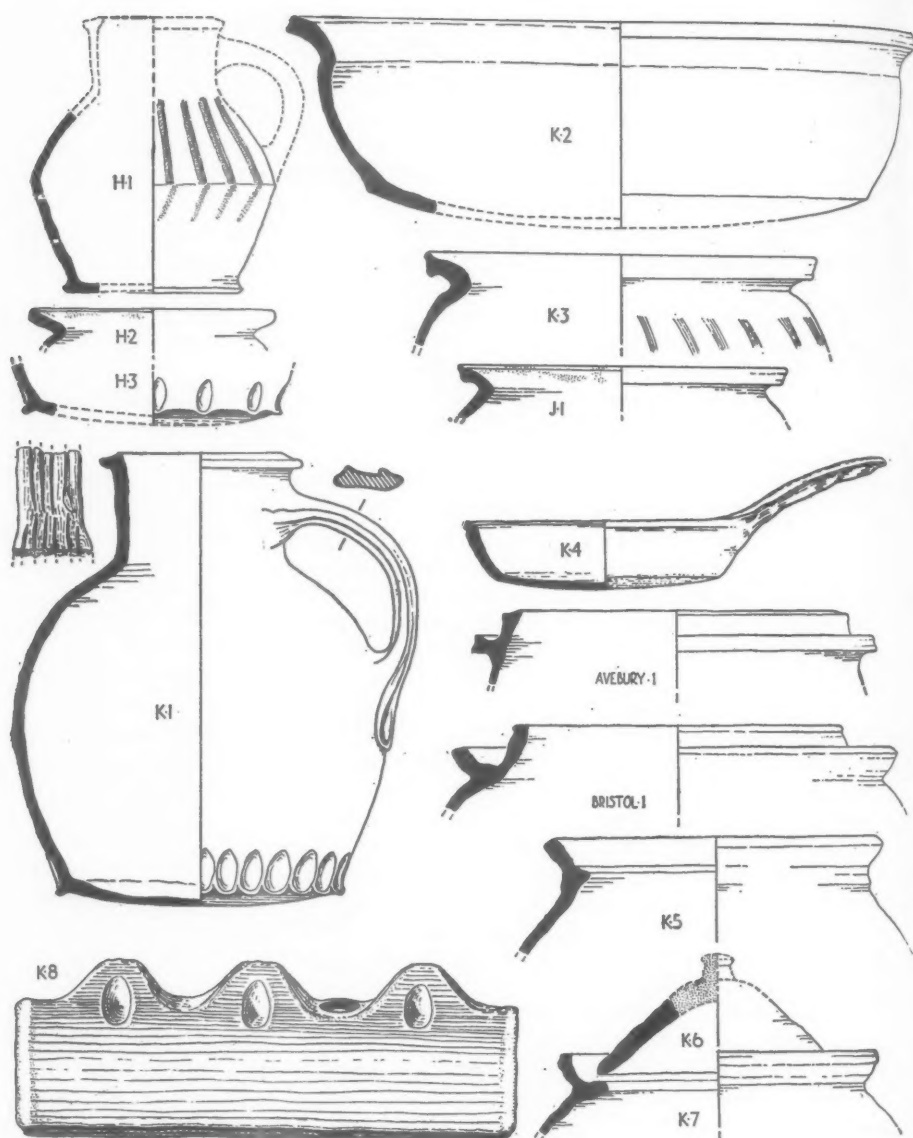


FIG. 19. Pottery from the thirteenth-century layer on top of the mound at Ascot (H. 1-3), thirteenth-century pottery and glazed ridge-tile from other sites in the village (J. 1, K. 1-8), and comparanda. There are spalled wasters of the types K. 1 and K. 4. ($\times \frac{1}{2}$)

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Archaeol. Soc. lxxi (1952), 69; lxviii (1949), 41; that found with a coin of Henry III, minted 1248–50, provides the available dating evidence).

- H. 3. Finger-pinched base of hard fine texture with limestone particles leached out; no glaze.
- K. 1. An example of the jugs apparently being made in a kiln to the north of High St., Ascot. Numerous pieces have been found, many spalled and flaked badly; smaller-sized jugs of this type were also being made, all in the same fairly homogeneous fabric flecked with white and fired light red all through, superficially smoked in a few places. The strap handles are either plain moulded or slashed in long narrow lines. This form of jug with pinched base may be compared with some datable to the early thirteenth century from White Castle, Glamorgan (*Antiq. J.* xv (1935), 327, no. 17), and from the New Bodleian site at Oxford (*Oxoniensia*, iv (1939), 100). Not illustrated are parts of another jug of uncertain shape, of similar orange fabric, with green freckled glaze.
- K. 2. Example of a shallow pan from the kiln site, of fabric similar to K. 1 with a little pale greenish glaze in places: twisted rejects of this type of pan occur here.
- K. 3, J. 1, cooking-pot rims of the same class as H. 2 with typical rim moulding and then washes of glaze on inner surface of rim flange. There is also part of the body of a cooking-pot in similar fabric.
- K. 4. Small handled bowl of widespread type in southern Britain; the handle is slashed along its length, and is a good deal spalled at its end. It is of the same hard white-flecked fabric, and carries some poor irregular patches of greenish glaze which has run over the fractured edges, and had evidently been mixed with a very fine clay for applications. This is probably a reject.
- K. 5, K. 6, K. 7. Examples of jars with lid seating, and a lid, all in the hard finely white-flecked fabric with sporadic patches of faintly olive-greenish glaze. The type was widely used throughout the middle ages; two early examples in the same white-flecked fabric are shown for comparison, one from the Pithay, Bristol (in British Museum, *Trans. Bristol and Glos. Archaeol. Soc.* xlviii (1926), 251) and the other from Avebury; in the later middle ages these were being made at Potterspury, Northants. (*Oxoniensia*, xiv (1949), 79).
- K. 8. Example of a ridge-tile, of grey to black fabric white-flecked with limestone detritus and with 1–2 mm. light red surface layers bearing in places thin patchy incompletely fired and opaque glaze containing tin to about 2 per cent. of the lead (cf. *Trans. Bristol and Glos. Archaeol. Soc.* lxxi (1952), 88–97). Ridge-tiles of exactly similar type were in use over the area from Cirencester to some miles east of Oxford, and northwards to Chipping Norton and Deddington (*Oxoniensia*, xvi (1951), 86–88).

FINDS: IRONWORK (fig. 20)

Key. This fine but simple iron key (no. 1) lay on the tower floor towards the south-west. It has inlaid silver bands (a technique of some antiquity),¹ and very

¹ For the Germanic and Saxon background of inlaying metals in iron, see *Antiq. J.* xxxv (1955), 20 ff., pls. v, vi.

simple wards, an early version of Ward Perkins's type VII A.¹ Its shaft comes to a point and is not hollow. It probably belonged to a chest.

Arrowheads. Two were found lying on the floor of the tower. One (no. 3) is of simple type well known from twelfth-century sites. The other is a small barbed one, a type until recently not recorded in contexts earlier than the thirteenth century;² this may have been used for hunting.

Buckle. This type of square harness-buckle (no. 4 from the tower floor) with its ring forged in one piece and the tongue bent over it, was in use over a long period:

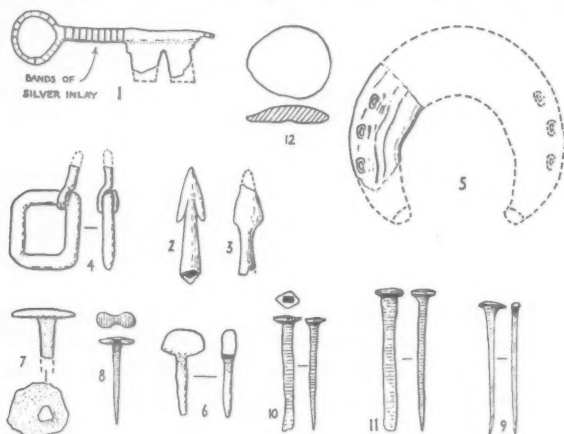


FIG. 20. Iron objects from Ascot, from the tower floor (1-4, 6, 7), from its debris filling (8-11, and 12, a lead pellet), and from the thirteenth-century layer on top of the tower (5). ($\times \frac{1}{2}$)

one was found in an eleventh- to twelfth-century context at Norwich.³ Square buckle-rings were however more usually made in two parts, using a stronger perforated pin.⁴

Horseshoe. Part of a broad flat horseshoe (no. 5) of smooth outline and with counter-sunk nail-holes, came from the thirteenth-century layer on top of the rubble tower filling.⁵

Nails. Five main types of nails were found, almost all examples coming from the tower floor or rubble filling, and thus twelfth-century. Similar types were found at Lydney Castle, Glos.⁶

¹ *Lond. Mus. Med. Cat.* (1940), pp. 135, 142.

² *Lond. Mus. Med. Cat.* (1940), p. 69, fig. 17; cf. *Ulster J. Archaeol.* xviii (1955), 99, fig. 11, no. 5.

³ *Norfolk Archaeology*, xxxi (1955), 98, fig. 24.2; cf. also *Ulster J. Archaeol.* xvii (1954), 141, fig. 13.2. That from Knaresborough is also made

in one piece, *Antiq. J.* xxxiii (1953), 213, fig. 1.23.

⁴ e.g. *Lond. Mus. Med. Cat.* (1940), p. 277.

⁵ For other early examples of this plain type, see *Lond. Mus. Med. Cat.* (1940), p. 113, fig. 36.7; *Ulster J. Archaeol.* xvii (1954), 136, fig. 11.16; xviii (1955), 99, fig. 11.2.

⁶ *Antiq. J.* xi (1931), 254, pl. xxxvi.

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1. Horseshoe nails with semicircular raised head (no. 6), in common use in the mid-twelfth century, with wavy outline horseshoes.¹

2. Short nails with broad flat top (no. 7).

3. Nails with figure-8 heads (no. 8). This type of head has only recently been recognized, in thirteenth-century castles in the north of Ireland.² It has now been traced in England here at Ascot, in later twelfth-century contexts at Deddington Castle, Oxon.,³ and one has come from the medieval occupation at Holton,⁴ Oxon. Although it is not noted among the Lydney material, it would seem possible that such an individual type was a product of the Forest of Dean forges, or other forges, which were providing nails in quantity for royal works especially, in many parts of the realm.⁵

4. Larger or medium nails with rectangular section. These may either come to a point (no. 9) or (5) be wedge-shaped (nos. 10, 11). These are the commonest nails on the site.

In addition there were also nails with wedge-shaped heads (not illustrated), most of which came from the thirteenth-century layer on top of the rubble filling: such nails were usually used in fine joinery (and in coffins).

FINDS: BRONZE (fig. 21)

Lying on the floor of the tower were numerous fragments of gilt bronze strip, some with attachment holes, and faint diagonal gadrooning. Such gilt bronze strip has been found on other castle and manorial sites of the twelfth and thirteenth centuries, and is the ornament from perishable material, leather or wood; none of the nails or rivets were detected. The four-lobed bosses (no. 7, two examples from the floor of the tower) are well paralleled at Castle Hill, Folkestone, and at the Husterknupp in period III (twelfth century).

Such strip has been recorded on the following sites,⁶ mostly in the twelfth century:

Ascot Doilly, Oxon.

Deddington, Oxon. (unpublished).

Swerford, Oxon. *Oxoniensia*, xxiv (1959).

Castle Hill, Folkestone. A. Pitt-Rivers, in *Archaeologia*, xlvii (1882), pl. xix.

Castle Neroche, Somerset. *Proc. Somerset Archaeol. Soc.* xlix (1904), 44, pl. III, 1.

Burwell Castle, Cambs. *Proc. Cambs. Antiq. Soc.*, xxxvi (1936).

Kilkhampston, Cornwall (unpublished, information from Mr. J. S. P. Bradford).

Warrington, Lancs., from Mote Hill (unpublished, Warrington Mus., see here, fig. 21, no. 2).

Rayleigh Castle, Essex. *Trans. Essex Archaeol. Soc.* xii (1912), pl. c, opp. p. 165.

The Husterknupp, near Cologne. A. Herrnbrodt, *Der Husterknupp* (1958), pl. 9, no. 78 (period III, 12th cent.), pl. 18, no. 198 (period IV, 13th cent.).

¹ e.g. *Archaeologia*, xlvii (1883), 450.

² *Ulster J. Archaeol.* xvii (1954), 141, fig. 12.
18-21; xviii (1955), 94.

³ Excavations in 1947-9, unpublished.

⁴ We are indebted to Mr. H. Roberts for letting

us examine this material.

⁵ Pipe Rolls, later twelfth century, *passim*.

⁶ We are grateful to Mr. G. C. Dunning for bringing to our attention some of these examples.

Powerstock Castle (Dorset County Museum, information on this and the following three examples from Mr. R. A. H. Farrar); Wareham, Dorset; Lesnes Abbey, Kent; Saffron Walden, Essex.

'The Mounts', Patchesham, Surrey (thirteenth century).

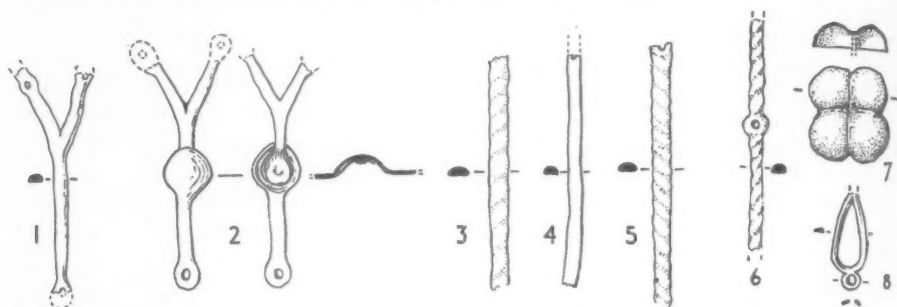


FIG. 21. Gilt-bronze mounts for wood or leather. 1, 3-8, from Ascot; 2, from Mote Hill, Warrington, Lancs. (p. 267). $\times \frac{1}{2}$

FINDS: WINDOW-GLASS

From the filling of the tower, at levels about 1 ft. above the mortar floor, came four small pieces of window-glass $\frac{1}{2}$ -1 in. long. They are of a clear pale green glass, 1.3-1.5 mm. thick, containing small round bubbles, and decaying on the surface to a brown flaking layer. This is a 'potash', or 'wald' glass,¹ the alkali for which was derived from wood-ash. The green colour is due to iron.

This thin glass presumably came from a small window well up in the tower, though it might have come from a portable glass panel; the pieces were found fairly close together and among fallen stones and twelfth-century pottery. That so little was recovered was perhaps due to attempts to remove the glass before demolition of the tower in the late twelfth or early thirteenth century. Small fragments of similar glass (of comparable composition) were recovered from the castle hall at Deddington, Oxfordshire, in use from the 1140's to the later thirteenth century.

Domestic window-glass does not seem to have been recorded previously from twelfth-century contexts on excavations.² Documentary evidence for domestic window-glass first appears in the 1230's, but the records concern royal buildings only.³ Windows were being newly fitted with glass in Henry III's houses at Oxford and Woodstock in 1243-6.⁴ There is little documentary evidence to indicate how much earlier any glass windows were being used in houses of the wealthy,

¹ Analysis showed this glass to contain 12 per cent. potassium and 3 per cent. sodium (it had probably lost some alkali due to weathering). For technique of spectrographic analysis, see Ahrens, *Quantitative Analysis of Silicates*. We are most grateful to Dr. Taylor, Geology Laboratory, Oxford, for his generous help in this matter.

² But note Old Sarum, one piece in pit fillings of

c. 1100, which might, of course, have been Roman (*Antiq. J.* xv (1935), 179).

³ *Cal. Liberate Rolls*, *passim*; references in Turner and Parker, *Domestic Architecture in the Middle Ages*, i (1851), 182-243, and in M. E. Wood, *Suppl. to Archaeol. J.* cv (1950), 30-31.

⁴ *Cal. Lib. R.*, 1243/4, 1245/6.

or indeed in royal residences.¹ The Ascot evidence at any rate suggests that domestic window glass was available to some extent, even outside the royal works, by the 1160's. Glass was not particularly common in even the larger churches in England during the twelfth century,² and linen or parchment, made translucent with grease, continued to be used on occasions for window-covering through the middle ages.³

It is worth noting that several members of a family named *Vitrarius* or *le Verrer* were living and working in Oxford from the later twelfth century onwards.⁴ It is not clear just what kind of glass they were dealing in (they were not necessarily glass-makers and may have been no more than dealers). In 1236-7 the son of *Thomas le Verrer* is called *Nicholas le Butiller*,⁵ which suggests vessels; *Jordan le Verrer* (c. 1190) was Englished in the fifteenth century to *Jordan Carriour*—'maker of window-panes'—in the English Register of Godstow Nunnery.⁶ A *Thomas le Verrer* with properties in Oxford is described as 'of Fritwell' in 1277-8.⁷ In Oxford their property was mostly beside the church of St. Mary the Virgin,⁸ where the illuminators also lived. The earliest of these references thus pre-dates the earliest evidence so far available for glass-making at Chiddingfold in the Weald, by Laurence Vitrearius in 1226.⁹

FINDS: ANIMAL BONES

By Margaret Jope

Under tower floor. Ox phalanx 1; Pig calcaneum 1R, ribs 6.

Lower silt of ditch. *Anodonta cygneus* 4 (a fresh-water mussel).

Secondary silt of ditch. Ox patella 1; Sheep pelvis 1R; Pig femur 1R, atlas 1; Domestic fowl coracoid 1R.

Latrine chute outside north-west corner. Ox ribs 2; Sheep pelvis 2R, metacarpal 1, ribs 2; Pig pelvis 1.

¹ A window is mentioned in 1207-8 in the bishop of Winchester's house at Marwell near Twyford, Hants, but there is no suggestion that it was glazed, nor is there any mention of glass in the expenses connected with the upkeep of buildings throughout these extensive estates at this date. (*Pipe Roll of the Bishopric of Winchester, 1207-8* (ed. H. Hall, 1903).)

² See, for instance, J. D. Le Couteur, *English Medieval Painted Glass* (1926), pp. 58-67. Some twelfth-century painted glass may still be seen in Dorchester Abbey church, Oxfordshire.

³ L. F. Salzman, *Building in England* (1952), pp. 173-4. At Witney, for instance, in 1217, 9d. was spent on 'linen cloth for the windows of the church', and linen was similarly being used in St. George's Chapel, Windsor, in 1426-7.

⁴ H. W. Garrod, *Ancient Painted Glass in Merton College Chapel* (1931), pp. 39-43, to which may be added that Thomas le Verrer was renting

a shop in the Drapery (no. 16 Cornmarket) in about 1220 (*Sandford Cartulary*, i (Oxf. Rec. Soc. xix, 1937), p. 95).

⁵ *Cart. Hosp. St. John*, i (Oxf. Hist. Soc. lxvi, 1914), pp. 420-1.

⁶ *Cart. Hosp. St. John*, i, 419; ii, 74; *Eng. Reg. Godstow Nunnery* (Early English Text Soc.), p. 475.

⁷ *Cart. Hosp. St. John*, i, 408.

⁸ *Cart. Oseney*, iii (Oxf. Hist. Soc., 1931), p. 105 (1260).

⁹ S. E. Winbolt, *Wealden Glass* (1933), pp. 7 ff. Eric Parker (*The Countryman*, xxiv (1941), 134-5) reported the finding of scraps of fused glass with twelfth-century pottery at the Tolt, Hambledon, near Chiddingfold. We have seen this pottery, and while some is twelfth-century, much of it is later. Mr. Brian Hope-Taylor considers that the Tolt may have been a motte (*Archaeol. J.* cvii (1952), 17-18).

On Tower Floor

| | Ox | | Red deer | | Sheep | | Pig | | Dog | | Bird | |
|----------------|----|----|----------|----|-------|----|-----|----|-----|----|------|----|
| | L. | R. | L. | R. | L. | R. | L. | R. | L. | R. | L. | R. |
| Mandible . . | — | I | — | — | — | — | — | — | — | — | — | — |
| Teeth . . | — | — | — | — | — | — | 4 | — | I | — | — | — |
| Metacarpal . . | — | — | — | — | — | I | 6 | — | — | — | — | — |
| Tibia . . | — | — | — | — | 2 | — | — | — | — | — | — | — |
| Calcaneum . . | — | — | I | — | — | I | — | I | — | — | — | — |
| Metatarsal . . | — | — | — | — | — | — | 3 | — | — | — | — | — |
| Phalanges . . | 4 | — | — | — | 2 | — | 2 | — | — | — | I | — |
| Vertebrae . . | — | — | — | — | I | — | — | — | — | — | — | — |
| Ribs . . | I | — | — | — | I | — | — | — | — | — | — | — |

Cepaea nemoralis 3.

Tower Fill Above Floor

| | Ox | | Red deer | | Pig | | Sheep | | Fallow deer | | Horse | | Hare | |
|-----------------|----|----|----------|----|-----|----|-------|----|-------------|----|-------|----|------|----|
| | L. | R. | L. | R. | L. | R. | L. | R. | L. | R. | L. | R. | L. | R. |
| Antler . . | — | — | 3 | — | — | — | — | — | — | — | — | — | — | — |
| Maxilla . . | — | — | — | — | I | — | — | — | — | — | — | — | — | — |
| Teeth . . | — | — | — | — | 2 | — | I | — | — | — | I | — | — | — |
| Scapula . . | — | — | I | — | — | — | — | — | — | — | — | — | — | — |
| Humerus . . | — | — | — | — | — | — | — | — | 2 | — | — | — | — | — |
| Radius . . | — | — | — | — | — | — | I | — | 2 | — | — | — | — | — |
| Metacarpals . . | I | — | 2 | I | — | — | — | — | — | — | — | — | I | — |
| Pelvis . . | — | — | — | — | — | — | — | — | I | — | — | — | — | — |
| Femur . . | — | — | — | — | — | — | I | — | — | — | — | — | — | — |
| Tibia . . | — | — | — | I | I | I | 3 | — | — | — | — | — | — | — |
| Calcaneum . . | — | I | I | — | — | — | — | — | I | 2 | — | — | — | — |
| Metatarsals . . | I | — | — | 2 | — | — | — | — | — | I | — | — | I | — |
| Phalanges . . | 20 | — | 3 | — | 2 | — | — | — | — | — | I | — | — | — |
| Atlas . . | — | — | — | — | — | — | I | — | — | — | — | — | — | — |
| Ribs . . | — | — | — | — | — | — | I | — | — | — | — | — | — | — |

There is little to be said about these bones, except to note the scarcity of bird remains, the entire lack of fish (which were found at Deddington castle), and a larger proportion of deer remains than is usually found on such sites.

THE HOUSE (fig. 22)

Summary. The house lies 80 ft. south of the tower, differently aligned, within the area of the bailey. The east wall is an almost complete buttressed gable of the thirteenth century. In the sixteenth century a three-bay house with cross-passage was built on to this surviving thirteenth-century gable. In the early seventeenth century a large cross-wing was built to the south-west, incorporating other medieval fragments and perhaps on earlier footings, and the two buildings were joined up. At this time a two-storey porch was added on the front (south-east) face and a stair-projection at the back. In the eighteenth century a second stair-projection (ashlar

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faced) was added in the re-entrant angle with the south-west wing, and a cart-house and privy added to the north-east gable.

The medieval building. The thirteenth-century gable of roughly coursed rubble has a clasping buttress on one corner and an angle pair on the other (pl. xxxvii, a); they are of Taynton Stone ashlar, with weathered offsets; there is also an ashlar steeply chamfered plinth running continuously across the east wall and round the

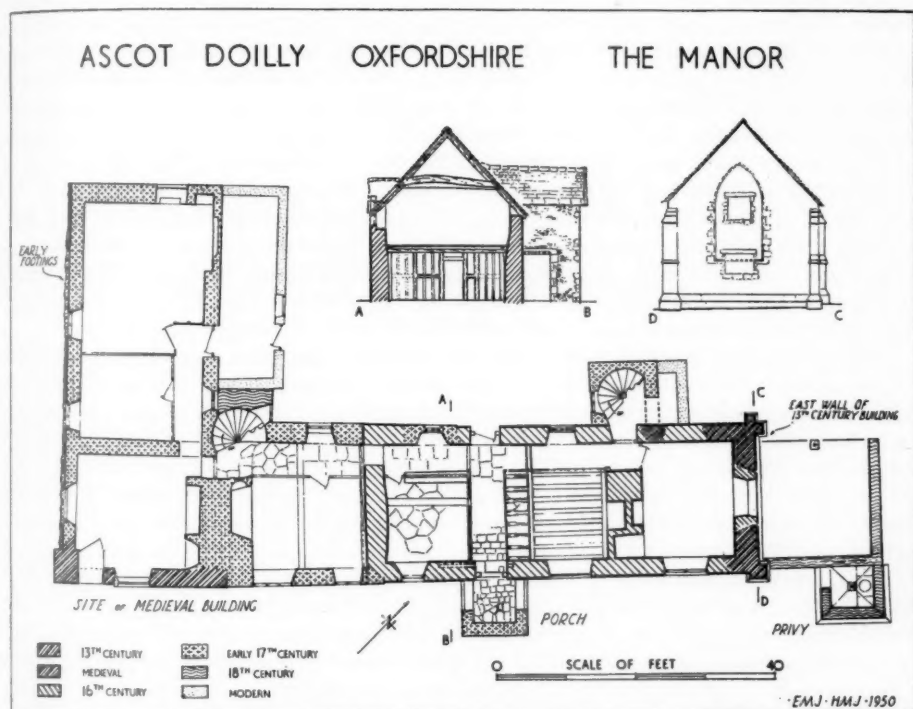


FIG. 22. Plan of the present house (to 1959) at Ascot, showing constructional periods.

buttresses. The jambs of a wide window with about half the lancet arch survive in this gable, which has been reconstructed above this from a chamfered offset. Recent alterations have shown the ashlar two-order splay of a further window (or less likely a door) in the north-west wall, and the ground-floor window in the south-east wall probably marks the position of another. These simple features cannot be dated closely, but twin angle buttresses of the proportions seen at the north corner can sometimes be found, though they are not general before the mid-thirteenth century.¹ On the other hand, one excellently carved capital of Taynton Stone (pl. xxxviii c)

¹ Compare the buttresses with weathered offset at Sutton-at-Hone, Kent, of c. 1234; *Archaeol. J.*, cvii, Suppl. (1950), 40; *Archaeol. Cantiana*, xxii (1897), 255-60; xlvii (1935), 205-10.

apparently found on the site should be c. 1220-40:¹ it is of half-octagon form, presumably a corbel to carry a roof-frame.

This thirteenth-century gable has been called that of a chapel,² but this interpretation is difficult to accept. The twelfth-century references to the d'Oilli chapel of Ascot, the agreement c. 1229 that St. Frideswide's should provide a chaplain whenever Roger d'Oilli, his wife, or members of his family (*successores*) were in residence, and the fact that it received no tithe (the d'Oilli holding owing their tithe to Shipton, of which Ascot church was then a chapel of ease), all reveal the purely domestic character of the chapel. If this window rising the full height of the gable had been indeed that of a chapel, this would have been comparable in size with the Prebendal chapel at Thame,³ some Preceptory chapels,⁴ or that of the bishops of Exeter at Bishopcourt, Honiton Clyst.⁵ Domestic chapels of the thirteenth century were small chambers, little more than oratories, and none of size comparable to Ascot can be quoted; even that of Robert Burnell, bishop of Bath and Wells, at Acton Burnell in the 1280's was only a small chamber.⁶ If this gable had not been that of a chapel it must have been of a ground-floor hall; yet it is also difficult to find large gable windows in halls of the thirteenth century.⁷ We incline to the view that this was part of a hall rather than a chapel, and the capital could have been part of this structure, the date being thus c. 1220-40.

During the thirteenth century Ascot was evidently being used at times by Roger d'Oilli, his family, and successors. It was leased from the heirs of Roger d'Oilli by Bogo de Clare from at least 1268 to his death in 1294, though this may have been no more than as an investment;⁸ it is unlikely that he would have had any personal connexion with Ascot, unless, perhaps, because it was an estate conveniently placed to be near the king at Woodstock, and to Wychwood Forest. Even then he would hardly have been so much more ostentatious about his private chapel than Robert Burnell at Acton Burnell.

The sixteenth-century house was of three bays with cross-passages, a type developed from the medieval hall-house.⁹ It had been divided from the beginning by a first floor through the whole length, and a large chimney in the centre of what would have been the medieval hall space, which was thus divided into four chambers, two

¹ We are most grateful to Mr. Lawrence Stone for his opinion on this carving: it would have been c. 1200-20 at Wells.

² M. E. Wood in *Archaeol. J.* cvii, Suppl. (1950), 55, 112 n. 21.

³ *Ibid.*, p. 60, pl. iv c.

⁴ *Ibid.*, p. 112 n. 19.

⁵ *Ibid.*, pp. 112-13; *Trans. Exeter Diocesan Archt. Soc.* xv (1929), pl. xxvi.

⁶ C. A. R. Radford, *Guide to Acton Burnell* (M. of Wks. 1958).

⁷ Mrs. Kaines-Thomas (Dr. M. E. Wood) has suggested Tyting, near Guildford, as a parallel, and has kindly put her photographs at our disposal here; the building itself was somewhat wantonly destroyed with little protest in 1957, and Mr. John

Harvey has generously obtained notes and drawings for us. But though the structural parallel for a window in the gable is valuable, there seems no certainty that this was a chapel either. The Ascot window could just have been a triple lancet, for the crucial evidence is destroyed by the inserted windows. Compare also Martock, fourteenth century (*Archaeol. J.* cvii, Suppl. (1950), 72-74), and Mr. W. H. Godfrey's arguments concerning Swanborough, Sussex (*Sussex Arch. Coll.* lxxvii (1936), 1-14), where he considers the chapel probably lay to the east of the hall of c. 1200.

⁸ We owe this suggestion to Professor Sir Maurice Powicke.

⁹ Sir Cyril Fox and Lord Raglan, *Monmouthshire Houses*, ii (1953), 105.

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up and two down.¹ The whole house was thus basically a six-roomed house. There was perhaps once a stair to the south of the stack, and at the other side of the stack was probably a baffle-entrance,² later used as the way to the added stair. The house has walls tapering on the inside. In all these features it may be compared with a similar six-roomed unaltered house of the later sixteenth century, the 'Priory' at Marcham, Berks.³ Ascot seems, however, to have had fireplaces in the chambers on the single-bay side of the cross-passage, neither of these rooms therefore being used for farm purposes or grain storage. The small square windows contradicting the medieval window in the north-east gable belong to this phase, as also does the draw-bar slot on the south-east door.

The Ascot house has a well-preserved but roughly worked screen along the south-west of the cross-passage. That on the north-east has been removed, but the position is traceable by the break in the chamfers of the ceiling beams. The paneling in the room to the north-east of the cross-passage has probably been brought from elsewhere, as its height does not fit.

It is difficult to date precisely this phase of the house, for most of the surviving detail seems to be of the next phase. Nevertheless, it provides a rare example of a small house of the first few decades following the Dissolution.

The early seventeenth-century house was formed by building a cross-wing incorporating some medieval work, and joining this to the sixteenth-century house. This phase is datable by the chamfer ornament of the porch lintels, and by the timber window jamb and mullion mouldings, ovolo on the outside and plain chamfer within.⁴ Of these one survives at the back to the south-west of the cross-passage and another in the cross-wing, blocked by the added eighteenth-century stair. The two-storey porch and the north stair were added, the latter a broad spiral carried on a central post. The massive door frames, pegged and with mitred chamfers, must also be of this phase.

A large chimney-stack was created at the junction with the cross-wing. At ground-floor to the south-west was probably a kitchen; on the north-east recent alterations have shown a massive fireplace with slightly cambered timber breastsummer 10 in. square, and an inglenook. At first floor on the south-west was a fireplace with well-wrought stone surround having a very flat pointed head and sunk spandrels, a long-lived design. The cross-wing has been used for farm purposes, and little of its original nature can now be traced. In the 1665 hearth-tax return the house, occupied by Richard Harris, is rated as having eight hearths.⁵

The eighteenth-century additions consist of an ashlar-built stair projection in the angle with the cross-wing (blocking a window in the latter), with a winding stair similar to the other stair; and at the north-east end, of a cart-house and privy with pyramidal roof and internal seating surviving until recently.

¹ This type of subdivision is not seen in the Monmouthshire houses nor commonly in the south-west; it is a recognizable type in the Oxford region.

² This term refers to an entrance opening directly on to the butt end of a chimney-stack; *Berks. Archaeol. J.* lvii (1959), in press. This layout is of wide occurrence in the sixteenth and seventeenth

centuries, and can be found also in the New World (H. Morison, *Early American Architecture* (1952), 21, 54, 61-65, 172, 329).

³ *Berks. Archaeol. J.* lvii (1959).

⁴ Sir Cyril Fox and Lord Raglan, *Monmouthshire Houses*, iii (1954), 48.

⁵ *Oxf. Rec. Soc.* xxi (1940), 177.

JOHN THORNTON OF COVENTRY AND THE EAST WINDOW OF GREAT MALVERN PRIORY

By JOHN A. KNOWLES, M.A., F.S.A.

THAT the Great East Window at York (Pl. XL) was designed by John Thornton of Coventry in 1405 is a matter of common knowledge, and much study has been expended by various writers in attempts to discover further particulars about the artist.

But the crux of these researches has always been the inability to account for the connexion which he undoubtedly had with the east window of Great Malvern Priory; for at the time at which, there is reason to believe, it was made, Thornton must have been, according to the expectation of life in the middle ages, an aged man.

Shortly stated, the reasons for suspecting that John Thornton had something to do with the Great Malvern window are these. When Thornton had finished the Great East Window at York in 1408, he was evidently engaged as principal designer on the St. William window (c. 1421), because portions of cartoons which had been used on the east window were again used to represent other but similar subjects in the later work (fig. 1).¹

Similarly, figures and details from the St. William cartoons again appear, identically the same, in the Great Malvern east window, the date of which is about 1450 (fig. 2 and pl. xli). The late G. McNeil Rushforth, in his learned work on the Malvern Glass,² was evidently fully aware of the difficulty over Thornton's probable age at the time the Malvern east window was made. On page 7, in referring to the glass, he stated 'there are reasons for dating it as early as about 1440', in which year (if the conjectural dates which we will presently give are approximately correct) Thornton would have been seventy-five years of age. Later, he evidently realized that for a man to be actively engaged at such an age in the fifteenth century would be very unusual, for on page 54 he wrote 'We must therefore put back the date of the Malvern window as far as possible', which he did (p. 55) by taking another ten years or so off his former estimate by 'assuming that the glass of the great window dates about 1430-1440'.

The year 1450 is probably early rather than late for the glass. No definite dates for the rebuilding of the choir at Malvern are known. But as Rushforth points out (p. 54), 'it was not till 1453-6 that the ornamental tile-facing of the quire enclosure

¹ This subject is dealt with in greater detail in J. A. Knowles, 'Technical Notes on the St. William Window in York Minster', *Yorks. Arch. J.*, vol. xxxvii, 1949, reprinted in *Glass Painters' Journ.*, vol. x, no. 3, 1949-50. Unfortunately the writer had only a very limited number of photographs of panels of the Great East Window to work upon, taken with a very primitive camera by his

father over sixty years ago. If photographs of all the 108 subject panels were available, no doubt many more parallelisms with the St. William window could be identified.

² *Medieval Christian Imagery as illustrated in the painted windows of Great Malvern Priory Church*, *Worcs.*, Oxford, 1936.



FIG. 1. Great East Window and St. William window, York, compared.

Top. Horses. (a) Great East Window

(b) St. William window. Panel 38

Bottom. (a) Man eating mortar from the tomb of the saint. St. William Window. Panel 64

(b) One of the men in anguish. Great East Window. Panel 88

wall was put up, and not till 1460 that the new altars were consecrated'. So it is unreasonable to have to suppose that so important and expensive a feature as the east window would have to wait from twenty to thirty years before the choir was in regular use.

We now come to the question of Thornton's probable age. Only four definite dates relating to him are known. These are:

1405. 10th December, in which year the agreement with the dean and chapter for designing the Great East Window was signed.¹

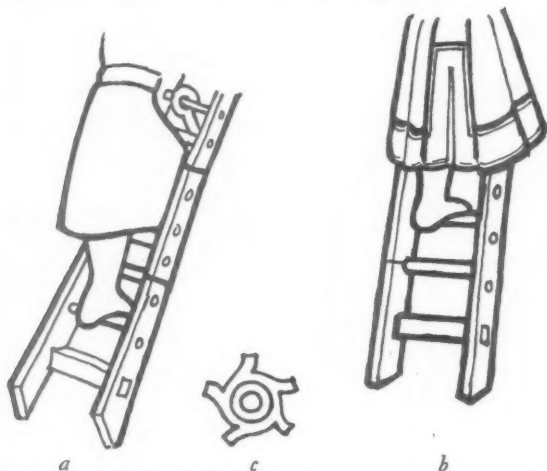


FIG. 2. St. William Window, York, and East Window, Great Malvern, compared.

(a) Man hanging tapestry. St. William Window. Panel 93

(b) Descent from the cross. E. Window, Great Malvern

Note. In both cases the holes in the side of the ladder do not correspond with the rungs.

(c) Ornament on the belt of King William in the St. William Window, and that on the belt of St. Joseph of Arimathea at Great Malvern, which are identical

1408. Completion of the Great East Window, as shown by Thornton's initials and the date at the top of the tracery of the window (fig. 3).

1410. Thornton elected a freeman of the city.²

1433. He was alive and living in Stonegate, at which time the dean and chapter appear to have carried out some repairs to his home.³

¹ Miss Joan C. Lancaster points out that 'if 6 Henry IV is correct, then December 10 would fall in 1404', 'John Thornton of Coventry, Glazier', *Birmingham Arch. Soc. Trans.*, vol. lxxiv, 1956, p. 56, note, reprinted in *Glass Painters' Journ.*, vol. xii, no. 4, p. 261. The agreement (in Latin) is printed in Westlake, *Hist. of Design in Painted Glass*, vol. iii, p. 72 n., from MS. Harl. 6971, p. 238. The transcript of the documents which Miss Lancaster quotes has been taken from *Dec. et Capit. York, Torre MSS. 'Minster'*, p. 7, in which

the wording is slightly different and the date given as 10th Aug. 1405.

² In the Freeman's Roll for 1410 Thornton is described as 'glazier'. This is important, for there were other John Thorntons in York at that time, e.g. John Thornton, cordwainer, free 1405, and John Thornton, 'motlemaker', free 1407. *Freemen of York*, i, Surtees Soc., vol. xcvi.

³ 'ij lodiis emptis pro ten. in tenura Joh. Thornton cum i fune canabi', *York Minster Fabric Roll*, Surtees Soc., vol. xxxv, p. 54.

He evidently died shortly afterwards, probably about 1435, for it is certain that he had nothing whatever to do with the large west window of St. Martin-le-Grand, Coney Street (1437), nor with the huge St. Cuthbert window, 1443, in the Minster, facing, and the same size as, the St. William window, 75 ft. in height, of which, as we have already shown, he had been the principal designer. Both of these are by another and much inferior draughtsman.¹ Had he been alive it is practically certain that Thornton would have been called upon to execute both of these, for the dean and chapter are the patrons of St. Martin's, and the St. Cuthbert window was paid for by Cardinal Longley, who when dean of York (1401-6) would have signed the agreement with Thornton for the Great East Window.



FIG. 3. John Thornton's initials and the date, at the top of the tracery of the Great East Window, York Minster.

It is unlikely that Thornton was less than forty years of age when he came to York. He must already have earned a considerable reputation which, in those days, could rest only on previous performance and accomplishment. The Great East Window was the largest and most important commission in stained glass which has ever been entrusted to a single individual. Such a notable work would not have been given to an untried hand.²

If then Thornton was forty years of age in 1405, he would have been born in 1365, and about seventy years old when he died in 1435 or thereabouts. It is therefore unlikely that he, personally, can have had anything to do with the Malvern east window which, we may presume, was executed some fifteen years later.

But Miss Joan C. Lancaster, in a most interesting and fully documented article published recently,³ has provided some particulars which may well prove a clue

¹ Vide J. A. Knowles, 'The West Window of St. Martin-le-Grand, Coney Street, York', *Yorks. Arch. Journ.*, part 150, vol. xxxviii, 1953.

² The present writer has stated, more than once, that in his opinion the *Fifteen Last Days of the Earth* window in All Saints' church North Street is Thornton's work. It might possibly have been given to him to show what he could do with a set of subjects not dissimilar to those of the *Creation* which were required for the Great East Window. This would form a test of skill, and would be a natural preliminary precaution for the cathedral

authorities to take. A later example occurred in connexion with the east window of Wadham College, Oxford, 1622. The artist, Bernard Van Linde, a young man in his twenties, appears to have been given a window at Kelvenden, Essex, to do as a test of skill, before being entrusted with the more important work. The date 1621 on the window, and the heraldry, were removed at the instance of a tractarian vicar, who regarded such things as pomps and vanities. (Communicated to the writer by the late Capt. Andrew Hamilton.)

³ *Op. cit.*, p. 276 n. 1, above.

leading to a solution of the above problem. She shows that in 1411 a John Thornton, glazier, was living in Coventry in a house in the street called St. John Bridges, and that in 1413 he obtained a reversion of the property from the owners for a period of sixty years. Unfortunately she has identified this John Thornton with the designer of the Great East Window at York, whereas it is more probable they were two distinct individuals.

She states that, in 1411, Thornton was living not in York but in Coventry. This is in the highest degree unlikely. It is impossible to suppose that a man approaching fifty years of age, with a business of his own, and all the prestige which would attach to him as the maker of the Great East Window, and who, only the previous year, had become a freeman of York, and paid the fine which undoubtedly would have been demanded,¹ would throw it all up to start practically afresh in another town. Nor is it likely that a man aged forty-eight or so in 1413 would want a reversion on his domicile for sixty years, which would not terminate until thirty-eight years after he had attained the three score years and ten prescribed by the Psalmist.

The most probable explanation is that the John Thornton, glazier, living in Coventry in 1411, was the son of the Thornton of the Great East Window, and that he had been named after his father, and probably his grandfather also.² As he is described as living (*maner*) in Coventry in 1411, he must have been at that time about twenty-two years of age, for a minor would have had no legal status. He would therefore have been born in 1389 (at which time his father would have been twenty-four years of age) and apprenticed to him when he was thirteen, so that he would have been out of his time in 1409, the year after the Great East Window was finished. As he would undoubtedly have been born in Coventry, and a son of a freeman of the city (for his father would not have been allowed to set up in business otherwise) he would have no difficulty in starting a business for himself. It would not be in any way remarkable for a man in business aged twenty-four in 1413 to secure a reversion for sixty years of the house in which he lived, so as to ensure a roof over his head until he was eighty-four if he lived as long. And, if the above reckoning is correct, when the east window of Great Malvern Priory was done in 1450, he would have been sixty-one years of age.

The whole matter can be summed up in Miss Lancaster's own words, if instead of 'John Thornton' we read 'John Thornton jun.' She wrote: 'it may be assumed that after a short stay in York on the completion of his work there, certainly not more than three years, John Thornton returned to Coventry, found a house where he could lodge in St. John Bridges, and as soon as arrangements could be made, took over the property. The terms of . . . the reversion of the property to John Thornton

¹ The Ordinances of the York glaziers (1463-4) printed in *York Memo. Book*, ed. by Dr. Maud Sellars, Surtees Soc., vol. cxxv, p. 208, ordained that no one be allowed to 'set up a shoep as a master unto suche tyme as he agre with the serchours of the said craft for a certain some'.

² In 1352-3 a John Coventre was one of the

impressed glass-painters working on the windows of St. George's chapel, Windsor. (*Vide* Sir William St. John Hope's *Windsor Castle*.) He may have been identical with the John de Thornton who is mentioned in 1371, as holder of a tenement in the town of Coventry (*Hist. MSS. Comm.*, Appen., part x, 1899, p. 140).

for sixty years . . . suggest that he was providing for his family and that he probably intended to settle in Coventry for the rest of his life.¹

Miss Lancaster having provided the clue, it is not difficult to account for cartoons by John Thornton sen. being again used at Great Malvern. They would have been inherited by the son on the death of his father about 1435. This was a common practice in York and elsewhere, and cartoons were used over and over again, for a considerable period. Thus a cartoon of St. Christopher in All Saints, North Street, again turns up, some eighty years later, in St. Michael-le-Belfrey.²

Thomas Shirley, the glass-painter, in his will made in 1456, left his son Robert 'all my full-size cartoons (*protractoria*), appliances and necessities' (*Reg. Test. Ebor.* ii. 380 d). William English, who died in 1480, bequeathed 'all the appliances and designs belonging to my work' to his son Thomas (*Reg. Test. Ebor.* v. 179). Robert Preston, who died in 1503, left to the above-named Thomas English 'all my scrowles [drawings rolled up] w^t one workboard' (*Reg. Test. Ebor.* vi. 71).³

If we may be allowed to digress for a moment from the main theme of our subject, there is one point about the Malvern glass (not that in the east window but that in the south clerestory of the nave) which probably shows another connexion between Malvern and York. These panels, which show scenes from the *Creation*, are strangely unequal in accomplishment. Some of the heads, such as that of *Noah in the Vineyard*,⁴ are as fine as anything done in the fifteenth century. Most of the others, though evidently executed from first-class cartoons, are feeble in the extreme. It is possible that the orderly and progressive routine for the completion of the work had been interrupted by death. But the point here is not the technique of the painting, but the fact that the draughtsmanship of the stalks, leaves, and tendrils of the vine is practically identical with that of the vine-stems surrounding the kings in the Jesse window in the south aisle of St. Michael's, Spurriergate, in York (fig. 4).

In its original state this must have been an exceptionally fine window (pl. XLII). It was probably in the east end of the church before the chancel was taken down to widen the street, and has been cut down to fit its present situation.⁵ Émile Mâle points out that the usual position of a Jesse Tree was in the east end; Chartres, where it is in the west, is an exception.

The York window has been not only well drawn, but expertly painted. There is much white glass used, but the tracing is firm, strong, vigorous, and decisive, so that the work 'carries' well. As a result of solid traced lines and much blocking out there is nothing weak or feeble about it. The heads are particularly fine, and have human touches such as are not to be seen in the work of the local school, where the

¹ *Op. cit.*

² Count Paul Biver points out how a set of cartoons representing a Jesse Tree has been used to a greater or less extent in no fewer than twenty churches in Troyes and surrounding villages. *Modes d'emploi des cartons, par les peintres-verriers du XVI^e siècle*, Caen, Henri Delesques, 1913.

³ Printed in *Test. Ebor.*, Surtees Soc., vol. iv, p. 216. *Vide* J. A. Knowles, 'Glass Painters of

York', *Notes and Queries*, 12 S., viii, ix, and x, 1920-22.

⁴ Rushforth, *Medieval Christian Imagery*, fig. 72.

⁵ There is an entry in the churchwardens' accounts for St. Michael's, Spurriergate, for 1533:

'Item, for helpyng of the Glass Windowe at the Roytt of Jesse i d (not allowed).'

Printed in John Croft's *Excerpta Antiqua*, 1766.

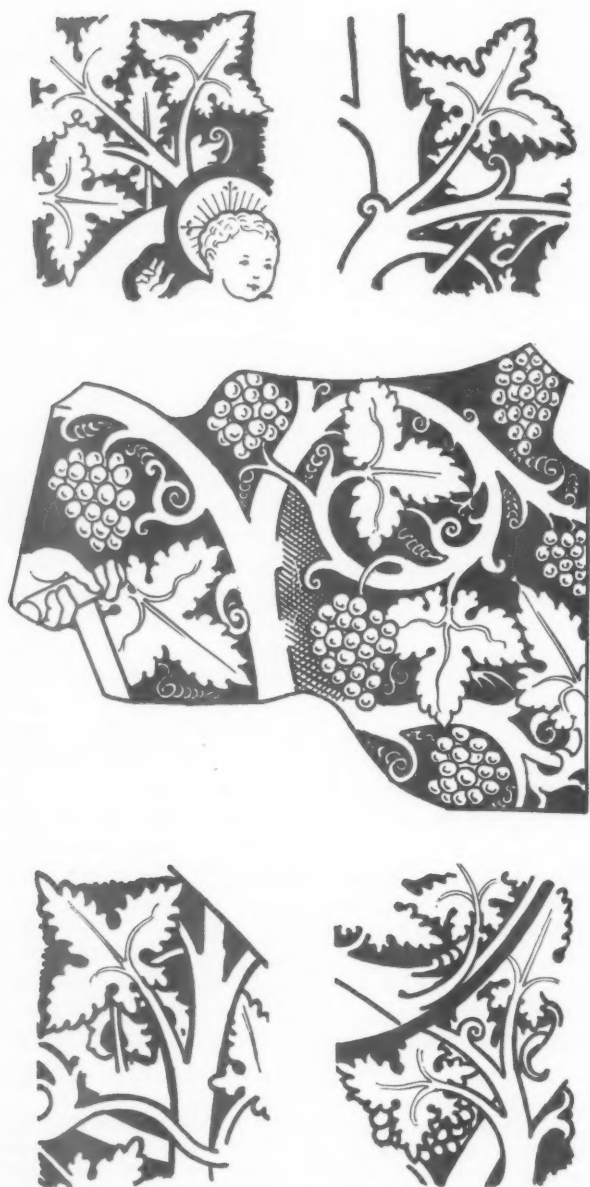


FIG. 4. *Top and bottom*: Details from vine-stems, Jesse window, St. Michael's, Spurriergate, York.
Centre: Vine from Noah's Vineyard subject, south clerestory, Great Malvern Priory.

figures are generally nearer to lay-figures than live personages. One of the kings, for example, is shown twirling the ends of his beard between his fingers (fig. 5).¹

More than twenty years ago the present writer ventured to suggest that the St. Michael's window was not York work, though he had no more than a feeling in his bones that it was so.² But now that the late Mr. Sidney Pitcher's photographs³ of the Malvern glass have become available, it is possible to compare the two, which



FIG. 5. King twirling beard from Jesse Tree, westernmost window, south aisle, St. Michael's, Spurriergate, York.

leads to the conclusion that there was some definite but unexplained connexion between them.

After the death of Thornton in 1435 or thereabouts, York stained glass gradually and progressively declined, probably as a result of the conservative and paralysing hand of the Guilds, until it reached its nadir in the coarse and brutal technique and

¹ Illustrated in J. A. Knowles, *York School of Glass Painting*, fig. 15, p. 68. A curious and interesting thing is to be seen in this window. Some time during the fifteenth century, some accident must have happened to one of the figures of the kings (pl. XLII) (right-hand light, second panel up) which was evidently broken out through the mishandling of a scaffold pole or ladder, and the glass-painters have been called in to make good the

damage. They have done this by making a tracing of King David, eliminating his harp, and changing the sceptre from the left to the right hand. But the head is very inferior to the original, the eyes are too close together, and the yellow stain muddy.

² *York School of Glass Painting*, 1936, p. 69.

³ Illustr. in Rushforth, *Medieval Christian Imagery*, figs. 12-188 and frontispiece.

treatment of the windows of St. Michael-le-Belfrey church 1535;¹ no doubt the work of William Thompson, glazier, free of the city in 1496, a parishioner, who appears to have given the south-east window, and who was buried in the church in 1539.²

It is unlikely that John Thornton sen. had anything to do with the Jesse window at York. Its strong and vigorous rendering is unlike his more delicate treatment. Thornton's principal successors as glass-painters in York were the two Chamber brothers, both of whom were called John.³ It is probable that they were the artists employed on the St. Martin window (1347) and the St. Cuthbert window in the Minster (1443). But they were both dead in 1450,⁴ so that they could have had no hand in the south clerestory windows of Great Malvern, which would have been executed after the east window, and probably somewhere about 1460. It is possible that the authorities of St. Michael's, in their desire to get the best work for the principal window of their church, and being dissatisfied with the productions of the local school, after the death of the Chamber brothers, decided to look elsewhere for an artist to carry out their east window. Whether John Thornton jun. was the chosen artist or not it is impossible to say.

¹ Were it not for the fact that the date of the St. Michael-le-Belfrey windows is established from dates in the inscriptions, it would be next to impossible to believe that many of them were executed some ten years later than the windows by Galyon Hone and partners, in King's College, Cambridge, the contract for which is dated 1526. They are executed in a debased Gothic style with only one or two insignificant Renaissance details.

² J. A. Knowles, 'Glass Painters of York, viii,

The Thompson Family', *Notes and Queries*, 12 S., ix, 27th Aug. 1921.

³ In the middle ages two brothers of the same Christian name were frequently twins, though there is no proof of this in the present instance. Cf. *The Comedy of Errors*, where the twin Antipholus brothers are attended by the twin Dromios.

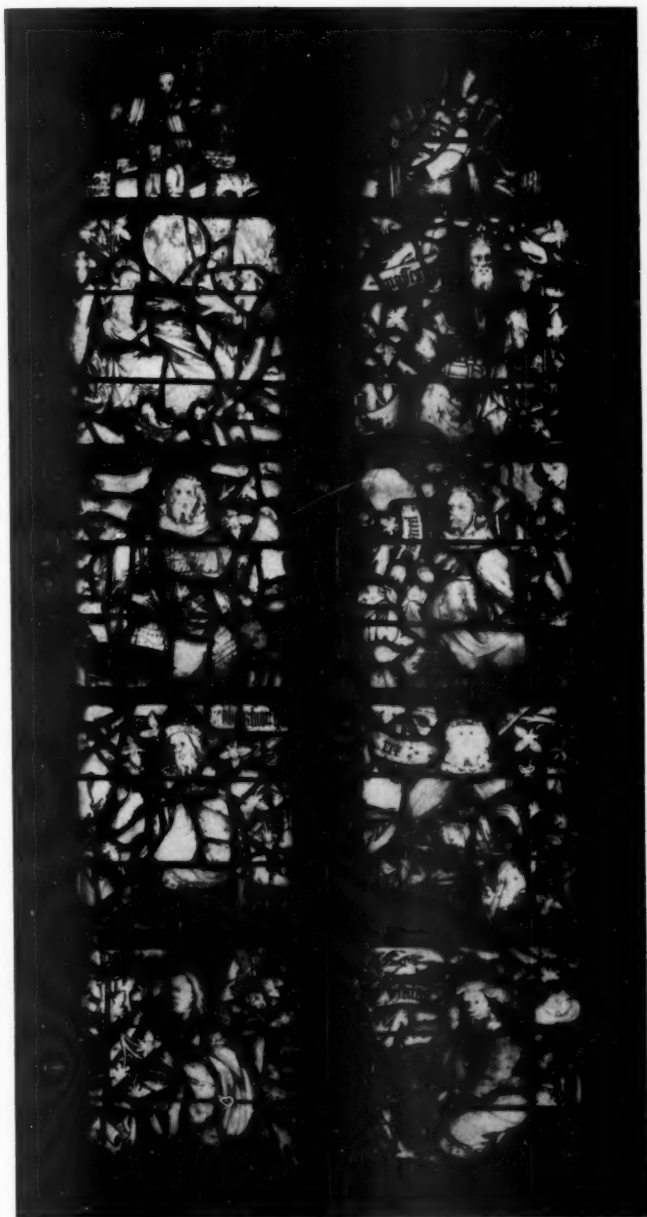
⁴ J. A. Knowles, 'Glass Painters of York, i, The Chamber Family', *Notes and Queries*, 12 S., viii, 12th Feb. 1921, p. 127.



Six panels from the Great East Window, York Minster, by John Thornton of Coventry, 1408



a St. William window, York Minster and east window, Great Malvern Priory, compared: *a*. Head of a cripple at the shrine, St. William window. *b*. Head of Judas Iscariot in the Last Supper, Great Malvern Priory. Note the three curls at the bottom of the beard in each case



Jesse window, south aisle, St. Michael's, Spurriergate, York

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KING EDWARD'S CLOCKS

By R. ALLEN BROWN, F.S.A.

ALTHOUGH both short and tentative, this paper must begin formally with acknowledgements and apologies. The acknowledgements are for help generously given by our Fellows, Mr. A. J. Taylor of the Ministry of Works, and Mr. Claude Blair of the Victoria and Albert Museum, and also by Mr. H. M. Colvin of St. John's College, Oxford. The apologies turn upon the central and fundamental fact that, though I have an ill-informed interest in clocks, and own rather more clocks than my house has room for, I am not a horologist. It follows that I shall not deal with the mechanics of early clocks, with verge and foliot escapements, going and striking trains, and all the other technicalities which horologists love to discuss. And if I mention, here and now, the name of Giovanni de Dondi, this is only to emphasize that I have at least tried to read up the subject before having the temerity to write upon it. If I fall into technical error by the way, I would ask indulgence; for this is my first—and doubtless my last—excursion into horology, and I should like it to be received simply as an ignorant but well-meaning contribution, by a mere historian, to a forbiddingly esoteric branch of antiquarian study, written in the hope that it may have something new, or nearly new, to offer in straightforward matters of historical fact.

The origin of the paper is simply stated. I have for some time been working on the subject of royal building in the middle ages for the forthcoming *History of the King's Works*. As I hacked my way through the voluminous records of the sumptuous building programme of Edward III—the King Edward of my title—I came across a number of references to clocks, made and set up at the king's command, in certain of his favoured castles and palaces then in process of building or improvement. As I understand it, the horological context of these references is such as to give them considerable importance. While the origin of mechanical, weight-driven clocks, in Europe in general and in England in particular, is apparently wrapped in obscurity, c. 1300 may perhaps suffice for our purposes as a rough date in round numbers, and it appears that clear references to the construction of clocks in fourteenth-century England are certainly worth noting. It is with four such clocks that I have now to deal, all of them dating from the mid-fourteenth century, and all thus antedating the known and surviving clocks at Salisbury and Wells. None of these four clocks, so far as I know, survives, but the evidence for their existence is unimpeachable, and the dates of their construction are reasonably exact and clear. And authentic instances and firm dates would seem to be the greatest need at the present time for students of fourteenth-century horology and of the origins of mechanical, weight-driven clocks.

First, let us turn to Westminster. That an early medieval clock and clock tower existed at Westminster is, of course, well known, and of the tower, demolished in 1698, we have an illustration in Hollar's engraving.¹ But the usefulness of this

¹ Conveniently reproduced, for example, in H. Alan Lloyd, *Some Outstanding Clocks over Seven Hundred Years, 1250-1950* (London, 1958), pl. 2.

known fact has been in the past largely cancelled out by an error as to its date, springing from the hoary legend that the tower and clock were set up in 1288 by Edward I, out of the proceeds of a fine imposed upon Chief Justice Hengham. The legend, for which there is no confirmatory evidence whatever, still appears, though with increasing qualification, in otherwise authoritative works,¹ and I should have thought the time has come now categorically to dismiss it. In fact the clock tower, for which the building accounts survive,² is the work of Edward III's reign, begun in 1365 and finished in 1367. It was built by contract by the two masons Thomas de Hardegrey and Maurice Yonge, under the general supervision of our friend—I almost said our Fellow—Henry Yevele. For the turret clock within the new tower we have the well-known entry, on the Issue Roll of Thomas de Brantingham, of May 1370, recording the payment of wages at 6*d.* a day to one John Nicole, 'keeper of the great clock of the lord king within the palace of Westminster'.³ Probably other references could be found to it, but meanwhile we must certainly also notice the payment, on an account for works at Westminster in 1366-7, of £246. 16*s.* 8*d.* to Master John Belleyetere, for three bells bought from him for three royal clocks (*orloggia*) made in the palace of Westminster, the castle of Queenborough, and the manor of King's Langley.⁴ The three bells together weighed 13,228 lb., and were paid for at the rate of 4*d.* the lb.; but the biggest was the Westminster bell, which in 1699 was found to weigh 9,261 lb., or just over 4 tons. For this is 'Edward of Westminster', whose voice, Stow records, could be heard in Westminster Hall 'in sitting time of the Courts', and on calm days as far away as the city. With the seventeenth-century demolition of the clock tower the great bell passed eventually in 1699 to the newly rebuilt cathedral of St. Paul's.⁵ Unfortunately it was cracked on the journey to the city, and has since apparently been recast twice again with additional metal, so that it is only with some considerable exercise of historical imagination that one may hear, in the sound of 'Great Tom' the present hour bell at St. Paul's, echoes of the voice of 'Edward of Westminster', bought in 1366-7 by Edward III for his new clock in his palace.

It will have been noticed that the payment of 1366-7 to Master John Belleyetere was for three bells for three clocks, not only for the clock at Westminster but also for clocks at Queenborough and Langley. In the accounts for the building of Edward III's new castle and town of Queenborough, on the Island of Sheppey, I have not been able to discover any further references to the clock for which the bell was supplied—possibly because no 'particulars of account' are extant for the year August 1368 to August 1369, and possibly because the surviving records do not in any case give as much detail as could be wished. At Langley, however, the case

¹ Lloyd, *op. cit.*, p. 6; Britten's *Old Clocks and Watches and their Makers* (7th ed. by G. H. Baillie, C. Clutton, C. A. Ilbert, 1956), p. 6.

² Pipe Roll 49 Edward III, rot. 50; Pipe Roll 41 Edward III, rot. 41; and especially Exchequer Q.R., Accounts Various (E 101), 472/14. Cf. J. Hunter in *Archaeologia*, xxxvii (1857), 23-26.

³ *Issue Roll of Thomas de Brantingham* (Record Commission, ed. F. Devon), p. 102.

⁴ Pipe Roll 41 Edward III, rot. 41.

⁵ For 'Edward of Westminster' and its subsequent history see Stow, *Survey of London*, ed. Kingsford, ii, 121-2, 379-80; and, for example, Jane Lang, *Rebuilding St. Paul's* (1956), pp. 211-12; *Wren Society*, xv, pl. 51. The original bell bore the inscription:

Tercius aptavit me Rex Edwardque vocavit
Edwardi decore Sancti Signentur ut hore.

is very different, and there are many references to the making or setting up of the clock (*orlogium*) on the 'particulars' of the accounts of Henry de Mammesfeld', clerk of the works there, between 1368 and 1371.¹ Amongst them we may notice the transport of John Belleyetere's bell from Westminster to Langley in August 1368, the provision of great bolts of iron weighing 360 lb., together with nails, staples, and chains for the clock, the payment of both carpenters and layers for work about it, and payments for roofing with lead both the clock and its belfry (*campanile*). One such reference is to the roofing of 'the church with the clock and cross there',² which suggests that the clock was set up, not in the buildings of the palace itself, but in or on the church of the Friars Preachers immediately adjacent to it.³

Antedating King Edward's clocks at Westminster, Queenborough, and Langley by more than a decade is the same king's clock at Windsor Castle. This was set up between 1351 and 1354, in the 'great tower', i.e. the keep itself, which was, of course, in the centre of the castle. The many references in the building accounts and subsidiary documents are printed in detail by St. John Hope, and include payments for a hammer, a pulley, and a weight for the said clock (*orlogium*).⁴ A bell was brought from Aldgate for it, and there is payment for the transport of the clock itself from London, where, therefore, it may have been made. Of especial interest is the payment of the expenses about the clock of three Lombards, one of whom is called the 'master of the clock' (*magister orlogii*), for six and a half weeks in the spring and early summer of 1352. Finally, some twenty years later, a new bell was provided for the Windsor clock; for there is reference on a works account of 1375-1377 to 'a great bell called Edward bought for a certain orloge called klokke (*pro quodam horilagio vocato klokke*) within the said castle of Windsor'.⁵

Here, then, are my four clocks, Westminster, Queenborough, Langley, and Windsor, all dating from the mid-fourteenth century, all commissioned by Edward III. None of them, save Westminster befogged by misdating legend, appears to have been noticed by horologists before, so far as I can discover; and none of them save Westminster occurs in any list of early medieval clocks that I have seen. All were clearly striking clocks, and though some form of the word *orlogium* is, I believe, used throughout to describe them (save in the Windsor reference of 1375-7 just cited), it seems a safe and justified conclusion that all were mechanical, weight-driven clocks. Their close association with the king's works is interesting, and that they were set up in certain favoured castles and residences, then being built or lavishly improved, seems to emphasize royal patronage in the history of English horology.⁶ The three clocks of Westminster, Queenborough, and Langley, it will be noted, are closely contemporary, dating from c. 1366-70, which

¹ E 101/544/22, 466/4, and 466/6.

² E 101/544/22, *dorso*.

³ See J. P. Haythornthwaite, *The Parish of King's Langley* (1924), p. 51.

⁴ W. H. St. John Hope, *Windsor Castle, an Architectural History*, i, 152-4 and notes. There was also a 'cistern in the clock', but this cannot, in the teeth of the other evidence, indicate a water-clock.

⁵ *Ibid.* i, 204.

⁶ An entry on the Foreign Account Roll of 42 Edward III, rot. 4d, seems to suggest the king's personal interest in his clocks: John of Derby, king's clerk, is paid his expenses in transporting the king's personal plate and other things between the castles and manors visited by the king during the year, and the expenses 'per ipsum Iohannem fact[as] circa orlogios domini regis'.

makes it tempting to associate with them the well-known letters patent of safe conduct and protection, issued by Edward III in May 1368, to three named Dutch 'orlogiers', one at least from Delft, then coming into the realm to practise their art.¹ On the other hand, the payment to the three nameless Lombards working upon the Windsor clock in 1352 focuses attention back again on Italy.²

In interpreting the evidence which forms the substance of this paper, perhaps one like myself, with no pretensions to horological expertise, should go no farther. Yet one strictly non-technical conclusion may be drawn. These references to early medieval English clocks have been found by chance, unsought, in the pursuit of a quite different line of research. There is a moral here; but also it would appear that building accounts and records relating to works—more especially the great class of Exchequer, Queen's Remembrancer, Accounts Various, at the Public Record Office—are a source likely to repay further study by horologists. It may well be that other evidence of early clocks is to be found there; and it is also likely, meanwhile, that those better equipped for the task than I, will be able to make fuller use of the evidence to which I have drawn attention in this present paper.

¹ *Calendar of Patent Rolls 1367-70*, p. 105.

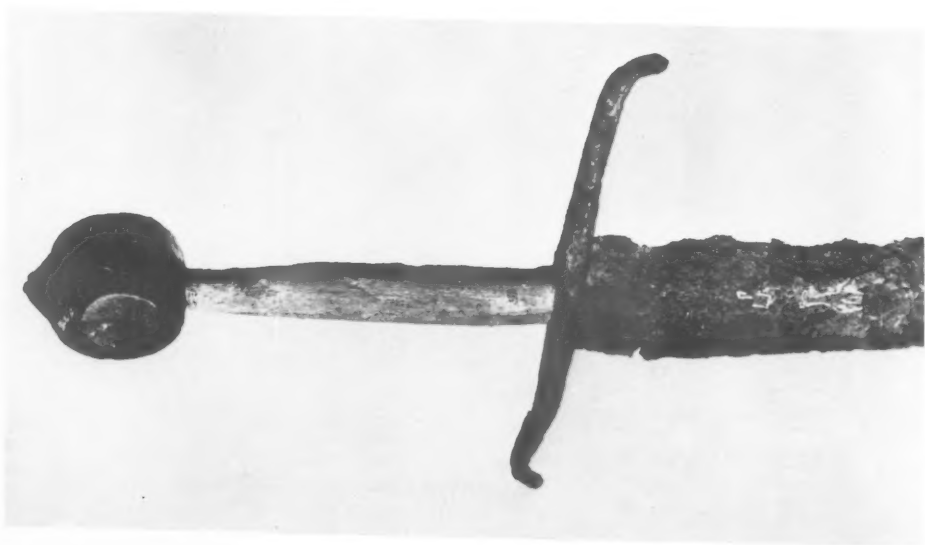
² For Italy as the suggested birth-place of the mechanical clock see Britten, *op. cit.*, p. 5.



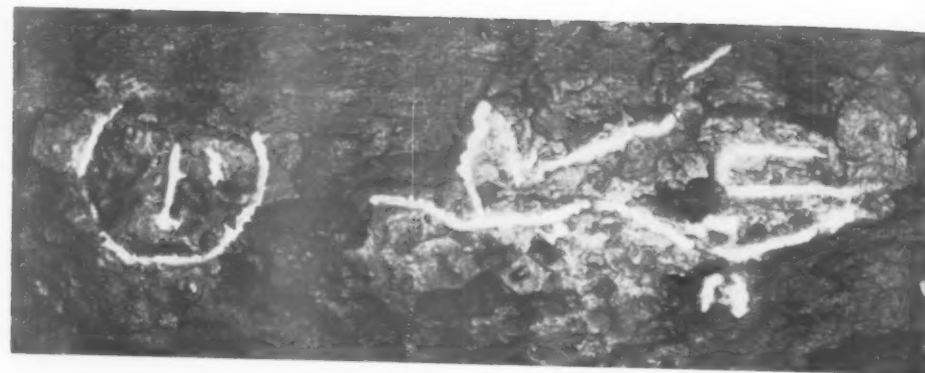
a. Sword found in the Thames near Dowgate Dock. Guildhall Museum



b. Sword found at Lillebonne, near Le Havre. Society of Antiquaries of London ($\frac{1}{2}$)



a. The Dowgate sword. Three-quarter view of the hilt



b and c. Marks inlaid in brass on either side of the blade of the Dowgate sword, enlarged

NOTES

A fourteenth-century sword found in the river Thames near Dowgate Street.—Sir James Mann, Hon. V.-P.S.A., contributes the following: This sword was found on the 17th of November 1958 on the foreshore of the north bank of the Thames, immediately to the west of Dowgate Dock, thanks to the vigilance of our Fellow, Mr. Norman Cook. Its form shows that it dates from the second half of the fourteenth century, and, like many swords found in rivers, it is in surprisingly good condition, even to its sharp point. The surface is now patinated a deep black. Its total length is 3 ft. 6 in., and its blade alone 2 ft. 9½ in. (pl. XLIII, a).

The pommel is of what is commonly called 'wheel-form', but this is a loose term meaning no more than that it is circular in silhouette. The breadth across its face is 2½ in., its height is 2½ in. plus a small pyramidal finial covering the end of the tang, measuring ¼ in., so that its outline is not really circular but oval. Each side takes the form of a truncated cone, flattened in the centre to form a smaller circular plane. The tang is 5½ in. long, oblong in section, tapering towards the pommel. The original wooden strip covering one side of the tang survives.

The straight quillons measure 8½ in., the tips at each end being turned over at right-angles. In section they are flattened on the upper and lower surfaces, and have a low ridge running along each side. They have been loosened at some time, probably shortly after the sword found its way into the river, and have since become rusted to the rest of the weapon at a slight angle to the blade, and the blade is bent in a slight curve.

Most medieval swords have blades with a broad channel down the centre, which both helped to lighten the sword and at the same time gave the blade a certain strength, providing something resembling a girder section. In this case there is a compromise between a channelled blade and one of diamond section. There is a short channel in the blade for about 6 in. from the quillons on either side of the *forte*, but after that the blade changes to a flattened diamond section, and is two-edged.

The blade is inlaid in brass on either side with the mark of the running wolf. It is the short stocky wolf, with the outline roughly cut with a chisel, and not the more elongated form of the fifteenth and sixteenth centuries. Whether this indicates that the blade was made at Passau or Solingen we do not know. Medieval blades with the running wolf mark are common, and are generally assumed to have a German origin. Beside the running wolf mark there are two smaller marks inlaid in brass on either side. One takes the form of a circle with two lines inside it. This is probably the remains of an orb surmounted by a cross. The corresponding mark on the other side shows some vague square lines and a kind of hook, which may be the remains of a crozier.

The distinctive outline of the quillons, strictly horizontal except at the ends, where the tips are turned down at right-angles, is found on at least six swords, now widely scattered. Nos. 1-4 of these swords are illustrated in Laking's *Record of European Armour and Arms*, 1920-2, vol. i, p. 140, figs. 172-5, where the Society of Antiquaries' sword is wrongly stated to have been found in the Thames at Westminster. They are:

1. Said to have been found at Lillebonne (near Le Havre, at the mouth of the Seine), and now in the Museum of the Society of Antiquaries (pl. XLIII, b). Total length 3 ft. 6 in.
2. Said to have been found in Lake Constance, lately in the possession of Sir Edward Barry, Bt., at Ockwells Manor.
3. In the Musée de l'Armée at Paris.
4. In the possession of the writer. It came from the collection of the late Baron de Cosson

and was before that in the possession of Monsieur Héron de Villefosse. It is said to have been found at Dinan in northern France.

5. In the Boissonas collection at Geneva (Fischer Sale, Luzern, 25th Nov. 1959, lot 124).
6. Formerly in the collection of M. Victor Gay in France, it passed before the last war into the Zeughaus at Berlin. This is similar in every way to the others except that it has a fig-shaped pommel, which is probably not the original one but a restoration.
7. There was a very similar sword, but possibly identical with one of those already mentioned, in the de Rozière sale at Paris, 19th–21st March 1860, lot 90, illustrated in the catalogue.

Although this group of swords superficially resembles the Dowgate sword in outline, it will be seen that they differ in certain important respects. Firstly, their pommels are much deeper in section, the cone-shaped projections on either side being much larger and the sides concave, resembling an axle with hub-caps. Secondly, their quillons are of a regular diamond section, and are much thicker in the centre and taper towards the ends. Thirdly, their blades have no channel at all, but are of strong flattened diamond section throughout. Fourthly, the grip is longer, putting them definitely in the class of hand-and-a-half swords, meaning that the hilt could be grasped with both hands when required.

These thrusting swords are typical of the tactics used in the later years of the fourteenth century, when it became the practice for knights to dismount from their horses before joining battle, and advance on each other with shortened lances grasped in both hands, or with two-hand swords held before them. These tactics were used at the Battle of Auray in 1364, when the supporters of the Montfort claimant to the Duchy of Brittany were assisted by an English contingent under Sir Hugh Calveley against the Blois party supported by the French.

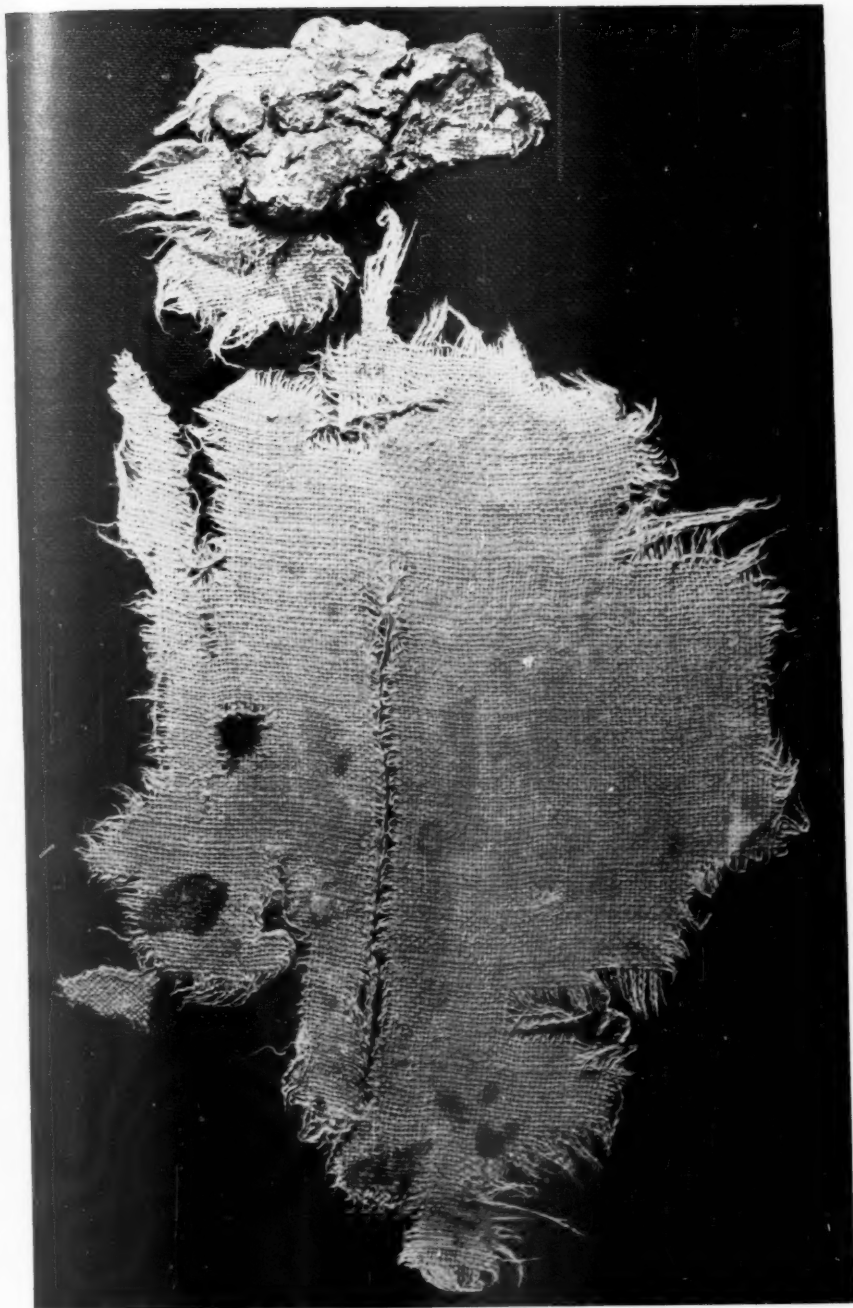
Swords of this pattern were probably wielded by both sides in the Hundred Years War in the closing years of King Edward III's reign. Of the total of seven swords mentioned above, four come from France or from French collections, and two from Switzerland or from Swiss collections.

I have not included in this connexion a famous sword, found in the Thames at Westminster, with silver mounts embossed with the head of a stag, which belongs to the Royal United Services Institution, and is now on exhibition at the London Museum (Laking, *op. cit.*, fig. 169; C. R. Beard, *The Connoisseur*, vol. xci, pp. 104–6, Feb. 1933). This sword is of a somewhat different pattern. The ends of the quillons are not turned down at the tip in quite the same way, but have a double bend and end in small knobs. I put this sword slightly earlier in date, as the scabbard mounts show that it was suspended from rings in two places, so that it did not hang vertically from the left hip, as was the case with all swords of the late fourteenth and early fifteenth centuries.

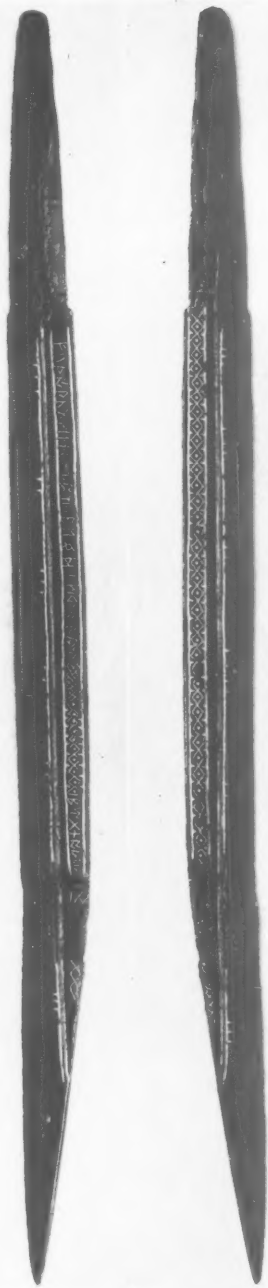
Two other swords come to mind, one in the Wallace Collection (Laking, *op. cit.*, figs. 162, 165), of which the blade is flat in section and the quillons gently curved, and the other formerly in the possession of Sir Guy Laking (*op. cit.*, fig. 163), of which the quillons curved slightly less abruptly. One may say that these have no more than a certain period resemblance, and are not really relevant to the sword we are discussing.

The Dowgate sword is the second fine sword found in recent years on the banks of the Thames. Another sword of the fourteenth century, with a flat, disc-shaped pommel, simple cruciform quillons of rectangular section, and having the distinction of a single-edged blade, was found on the south bank almost opposite the site of the present sword. It came to light when the foundations were being excavated for the new power station at Bankside. This sword, which I had the privilege of exhibiting to you three years ago, is now in the Tower Armouries. The Dowgate sword goes very properly to the Guildhall Museum.

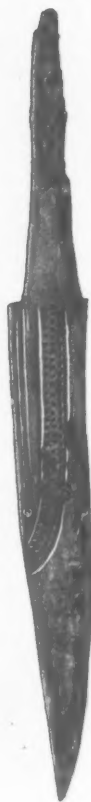
Cloth from the Caerleon 'Pipe-burial', 1927.—Mr. George C. Boon, F.S.A., sends the following note: A small glass bottle containing a scrap of cloth immersed in a viscous fluid has long been



Fragments of linen associated with the Caerleon 'Pipe-burial', found in 1927 (1)



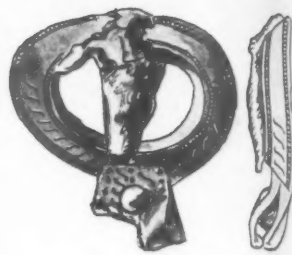
1. Iron scramasax with the runic alphabet, found in the Thames ($\frac{1}{4}$)



2. Iron knife from a grave in the cemetery at Broa, parish of Halla, Gotland ($\frac{2}{8}$)



4. Bronze strap-end from the same grave as no. 2 ($\frac{1}{4}$)



3. Penannular brooch from the same grave as no. 2 ($\frac{1}{4}$)



5. Iron knife from a grave in the cemetery at Kylver, parish of Stånga, Gotland ($\frac{2}{8}$)

associated with the well-known second-century 'pipe-burial' found near Caerleon in 1927¹ as reconstructed by the excavator, Mr. J. R. Gabriel, in the Legionary Museum of Caerleon. The bottle was opened during the reorganization of the museum in 1959, and the cloth was found to be naturally attached to a small piece of lead from the canister containing the cremation (pl. XLV). This lead elsewhere bore an impression of the weave. The cloth is therefore undoubtedly Roman. Mr. Gabriel stated in correspondence that this was all that he was able to save of the wrapping of the cremated bones, the rest having crumbled to dust upon exposure.

The cloth is in a fairly sound condition, and has now been dried out and mounted between two sheets of Perspex. It is of a dirty pink colour due to impregnation with corrosion-products from the canister. It measures about 6 by 4 in. Mr. H. A. Hyde, M.A., F.L.S., Keeper of Botany in the National Museum of Wales, kindly examined the cloth and found that it was composed of vegetable fibres indistinguishable from those of flax (*Linum*; presumably *L. usitatissimum*). Miss Audrey Henshall, M.A., F.S.A. Scot., in kindly commenting upon the fragment, stated that it was of plain weave, with about 32 warp and 36 weft threads to the inch. The threads are spun thus (Z) for both warp and weft.

The dating of the runic-inscribed scramasax from the Thames at Battersea.—Professor Birger Nerman sends the following note: The scramasax from the Thames at Battersea (British Museum 57, 6–23, 1), decorated with the Old English futhark (pl. XLVI, 1), has been variously dated between c. 700 and c. 950. Earlier scholars often preferred a date of about 800.² Baldwin Brown³ dated it about 950, whereas von Friesen,⁴ in basing his conclusion upon a verbal pronouncement of the Swedish archaeologist Sune Lindqvist, dated it as far back as about 700. However, from the philological point of view a close dating must be said to be impossible, and no well-founded archaeological date has ever been put forward.

Nevertheless, an archaeological dating is possible, on the basis of material found in an area which at first glance would seem unlikely—the small island of Gotland in the Baltic.

The Merovingian material from Gotland is richer than that from any other ancient Germanic territory, and it is consequently easier to establish a chronology, for the period under consideration, here than in other Germanic parts of Europe. In a paper 'Gravfynden på Gotland under tiden 550–800 e. Kr.' (= *Antikvarisk Tidskrift för Sverige*, 22:4, 1919) I subdivided this period on Gotland into four. Later I was able to divide the Gotlandic Merovingian period into five:

- | | |
|--------------------|-------------------|
| I. c. 550–c. 600 | IV. c. 700–c. 750 |
| II. c. 600–c. 650 | V. c. 750–c. 800 |
| III. c. 650–c. 700 | |

(a preliminary outline of this scheme appears in my paper, 'Die Vendelkultur im Lichte der gotländischen Funde', *Pirmā Baltijas vēsturnieku konference*, Rīgā viii, 16–20, 1937, Riga, 1938, pp. 94 f.).

During the Merovingian period Gotland was intimately related with the Germanic peoples of the Continent as well as with the Anglo-Saxons. In particular there are striking similarities between the weapons found in Gotland and those found in other ancient Germanic countries. Many of the weapon forms found on Gotland were undoubtedly derived from the Continent, or from England. Gotlandic scramasaxes and knives, for example, are on the whole similar in form to those found in the continental Germanic and Anglo-Saxon areas. Many hundreds of

¹ *Antiq. Journ.* ix (1929), 1 ff.

² e.g. L. F. A. Wimmer, *Die Runenschrift*, Berlin, 1887, p. 75: 'Ende des 8. Jahrhunderts (um 800)'.

³ G. Baldwin Brown, *The Arts in Early England*,

vol. v, London, 1921, pp. 184, 188.

⁴ O. v. Friesen, *Nordisk Kultur VI, Runorna*, Stockholm–Oslo–København, 1933, p. 52.

iron scramasaxes and knives are known in Merovingian contexts in Gotland and are well represented in all my five periods.

The decoration of scramasaxes and knives, like that from the Thames and from several other Anglo-Saxon and continental contexts, with one or more lines or grooves running parallel to the edge and meeting the back of the blade towards its point, occurs very frequently on Gotland, in my periods I–III and perhaps a little later. But only in my period I do we find decoration between these lines or grooves or between them and the backs of the scramasaxes and knives, as on the Thames scramasax.

The knife in pl. XLVI, 2 was found in an earthen vessel with burned bones and charcoal. The grave which was found on level ground was excavated in 1933 by the Swedish archaeologist Dr. Harald Hansson in a cemetery at Broa, parish of Halla, Gotland (State Hist. Mus. Stockholm Inv.-nr. 20517: grave 25). Between the two lines which run parallel to the edge of the blade, to meet the back towards the point, is an ornamental scheme which can be related to the decoration of the Thames scramasax. The ornament consists of a combination of two lines of triangles with the apexes turned towards each other between which is a row of lozenges as on the Thames scramasax, where two other related ribbon motives can also be seen.

This grave can be closely dated. It contained among other things a penannular bronze brooch (pl. XLVI, 3), of a typical Gotlandic series. This brooch is of an early type, illustrated, for example, in 'Gravfynden på Gotland under tiden 550–800 e. Kr.', figs. 73, 74, which belongs to my period I. Among other objects in the grave was a bronze strap-end (pl. XLVI, 4), which is also characteristic of the same period; cf. the parallel illustrated in *Antikvarisk Tidskrift för Sverige*, 15: 3, p. 125, fig. 86, which comes from the same grave as the penannular brooch illustrated in 'Gravfynden på Gotland under tiden 550–800 e. Kr.', fig. 74.

In pl. XLVI, 5 we see another knife, found in a grave—a mound covering a burnt layer—which was excavated in 1903 by the Swedish archaeologist Hans Hansson senior, in a cemetery at Kylver, parish of Stånga, Gotland (State Hist. Mus. Stockholm Inv.-nr. 13436 A: 6; illustrated *Fornvännen*, 1908, p. 239, fig. 87). Here, too, the zigzag line decoration on one side of the blade is related to that on the Thames scramasax; though in a slightly different form.

This knife can also be closely dated to my period I of the Merovingian period by means of its association with fragments of an early brooch of the special Gotlandic series ('Gravfynden på Gotland under tiden 550–800 e. Kr.', figs. 22 ff.) and with a bone comb, which, from the combination of its length and the character of its reinforcing strips (which are broadest at the top, but slightly curved, and decorated with a median row of concentric circles), can be dated to my period I of the Merovingian time, i.e. c. 550–c. 600 (cf. my detailed study of the development of combs in *Fornvännen*, 1947, pp. 112 ff.).

Thus we can see that the Thames scramasax has its closest parallels in the period c. 550–c. 600.

Further, we may note that two scramasaxes from graves in Hailfingen, O.-A. Rottenburg, Württemberg (grave 381) and Steindorf, B.-A. Fürstenfeldbruch, Oberbayern (grave 8),¹ bear geometric ornament, related to that which occurs on the knives discussed here, as well as animal ornament and, as yet uninterpreted, runic inscriptions. The Hailfingen example can be dated by association to the second half of the sixth century; it was found with a number of objects including an iron rectangular counter-plate and buckle with shield-shaped tongue-plate, which can be paralleled in Gotland. The Steindorf example was unassociated.

¹ H. Arntz und H. Zeiss, *Die einheimischen Runendenkmäler des Festlandes* (= Gesamtausgabe der älteren Runendenkmäler, Bd. I), Leipzig, 1939, pp. 240 ff., pl. xv; pp. 350 ff., pl. xxix.

REVIEWS

The Geography of the Hittite Empire. By JOHN GARSTANG and O. R. GURNEY. 11 × 8½. Pp. ix + 133. Occasional Publications of the British Institute of Archaeology at Ankara, No. 5. London: The British Institute of Archaeology at Ankara, 1959. 30s.

It seems to be the case that hardly more than two points in the Hittite geography of Asia Minor (Hattusas itself and Kanes) are securely identified by written evidence found *in situ*, for even such scenes of large-scale excavations as Alaca, Alişar, and Beycesultan have not yielded their original names. In massive contrast with this topographic poverty the Hittite texts abound to satiety with names of 'lands' and 'cities' which, in the earlier days of Hittite studies, were a mere embarrassment of idle riches. Two methods (in both of which the late Professor Garstang was a notable pioneer) have been used to bring order and 'local habitation' to these names: first, certain classes of texts describe marches or ceremonies with places in apparent geographical succession and, secondly, some of these places bear names which seem to have lasted into the Greek and Roman eras, and occasionally even to have survived the deluge of Turkish renaming. Subject to the correction of new discoveries on the ground, these methods are the sole resources, and they are employed with effect and care in the present book, as they have been in the works of other very recent authors devoting themselves to the same subject. The results, indeed, of these almost simultaneous studies (the others are, principally, by Professor Goetze and by Dr. F. Cornelius) include sufficient startling differences to evince the limitations of evidence so dependent upon inference, but this book will long keep its place as a contribution of enduring value.

It is in two parts: first come the geographical discussions, focused upon eight regions variously described in the texts, this division being, again, purely a modern inference. The second part is a selection of Hittite documents, translated either in full or in extracts, which have been employed in the course of Part I. In these translations the non-expert reader can be sure of having before him the best result of modern scholarship, and the geographical arguments are throughout well-instructed, sober, and acute. But they would have been much assisted by a better supply of maps, with which this book (and still worse the several contemporary articles of Cornelius) is seriously under-provided. It is true there is one more map (no. 2, p. 15) and one diagram (p. 71) to add to the Map 1 in the Contents, yet all are deficient not only in the marking of physical features, but more palpably in showing, with very few exceptions, only Hittite names. They present, consequently, only the end-product of the discussions, and give only partial help to the attentive reader, who is constantly needing to locate both classical and Turkish place-names, for guides to which he is not given so much as a reference—not even to the revised *Classical Map of Asia Minor* lately published by the same Institute. Another, if much slighter, hindrance is the spelling of the names themselves. The Introduction, p. viii, gives a note upon some, but not all (the dotted and undotted *i*) of the usages of modern Turkish, and adds some information about consonants of Hittite names as written in cuneiform. But it does not mention that the ubiquitous *h* and *š* are throughout, with rare exceptions, transcribed as simple *h* and *s* in English. Upon the whole this simplification may be judged successful and it occasions few real uncertainties, although names in which *š* precedes *h*, as for example Išhuppa, Wašhaniya, Mašhuluwaš, are no doubt much misrepresented by plain *-sh-*, and in at least one case, Paršuhandu (p. 64), the comparison of 'Parshu(n)ta' with Par-zu-ta gains a slight unmerited advantage. *En revanche*, the authors put a needless handicap upon their own argument by passing the repeated misprint 'T'lios' on p. 104.

Much that stands in the last three chapters of this book is ironical reading to those who remember, some thirty years ago, the philological kicks launched at the audacious Forrer and his

not very well-greaved Achaeans. But another proposal of the same author concerning the name of 'Asia', although accepted on p. 107 and supported by a considerable treatise of Bossert, still does not seem convincing. 'Asia' ought not to be considered apart from 'Europe' (which Bossert dismisses too summarily), and without going back to those who

'saw the Wide Prospect and the Asian Fen'

we may continue to think that nothing does so much justice to the pair as the old, oft-denied, but not discredited explanation as the Semitic words for the Rising and the Setting. Very interesting, also on p. 107, is the suggested reminiscence in Homer of a Hittite expedition to the west and a battle against the invading Phrygians, with Priam himself as an ally of the invaders and the Hittites as 'Amazons'. The authors allude indirectly to the notion which long prevailed that the celebrated figure at the King's Gate of Hattusas was itself an 'Amazon'.

C. J. GADD

Archaeological Discoveries in South Arabia. By RICHARD LeBARON BOWEN, Jr. and FRANK P. ALBRIGHT. 11 x 8½. Pp. xvii + 315. Baltimore: Johns Hopkins Press; London: Oxford University Press, 1958. 80s.

This volume deals with the archaeological findings of the expedition to South Arabia undertaken in 1952 by the American Foundation for the Study of Man. It is concerned with the survey of Beihan, the trade routes, irrigation, burial monuments, the incense traffic, and various objects from the Timna excavations. It is difficult to see on what system this book has been arranged, with the interpolation of appendixes each of which might well have formed an integral part of the work. Moreover the publication of the material from Timna without a full description of the archaeology of the site robs it of its full significance. The most important architectural information comes from the Mareb excavations in the Yemen, where unfortunately the work had to be abandoned before it was completed. The operations were largely confined to the temple area, called Awwam in Sabaeen, but better known as the Haram Bilqis. This revealed many interesting architectural features, and also showed the high degree of technical skill achieved by the Sabaeans; but neither the description nor the photographs do this fine building justice. The photographs are particularly disappointing, having obviously been taken at the wrong time of the day by photographers apparently unused to taking architectural features, as the shadows obscure much of the detail and several are not even in focus. No mention is made of the colour of the stone, which is a very noticeable feature, and the hasty partial clearing by the excavators of this important structure has in fact led to its almost complete destruction by stone-robbing since the expedition left. From this site there is only one stratigraphical section shown, and the plan lacks detail. The photographs of objects from Mareb also leave much to be desired, and are in general without a scale. The drawings are equally unsatisfactory, many of the pots having no sections, and the archaeological descriptions are inadequate.

The best sections of this report are those on the imported glass and pottery from Timna and on the lion-riders from the same site, although here again the illustrations are blurred, partly owing to over-enlargement.

It is deeply to be regretted that such a well-equipped expedition to such a little-known area should have produced such poor results, even allowing for difficult terrain and political misunderstandings; what is even sadder is the loss to archaeology of irreplaceable evidence.

M. V. SETON WILLIAMS

Alanya ('Alā'iyya). (Occasional Publications of the British Institute of Archaeology at Ankara, No. 4.) By SETON LLOYD and D. STORM RICE. 11 × 8½. Pp. viii + 70 + pls. 16. London: The British Institute of Archaeology at Ankara, 1958. 42s.

The promontory of Alanya rises from a plain in southern Turkey like a smaller but even more abrupt Gibraltar. Here stood the ancient city of Coracesium, of which there are no visible remains except pieces of its wall. One of the towers was converted into a Byzantine chapel, and there is also a frescoed church, surprisingly well preserved, while the ruins of a monastery cover a precipitous spur, which now is accessible only by boat; the date in every case seems approximately that of the First Crusade, but the church incorporates the apse of a basilican predecessor. Most of the other monuments are due to a Seljuk king, Ala ed Din, who captured the town in 1221 and renamed it after himself. His earliest work is a magnificent octagonal tower beside the harbour, and afterwards nearly three miles of walls were built to enclose and separate the beach, a town on the lower slopes, the upper town (itself subdivided a few centuries later), a fort and—on the summit—a residential castle. A vaulted dockyard, with berths for building five ships, is datable soon after 1229, and the various civil and religious edifices on the hill appear all to be Seljuk, except for a sixteenth-century mosque. These structures, and others along the roads which led to Alanya, are briefly described but illustrated with excellent plans, elevations and sections, together with a few photographs. The descriptions are factual, on the reasonable ground that Seljuk architecture cannot be historically studied until the basic material has been published; towards that end the Institute at Ankara has made a contribution far greater than the modest appearance of the volume might suggest. All the same, the importance of Alanya might well have been emphasized by pointing out some already obvious relationships, e.g. that the octagonal tower, which bears the signature of an Aleppine architect, is Arab in style, unlike the remainder of the fortifications, and that both types persisted in Ottoman work. The last section of the book does, in contrast, relate the Seljuk inscriptions (which are invariably in Arabic) with analogies elsewhere; it includes, too, one Greek inscription, probably of the third century A.D.

A. W. LAWRENCE

Jérusalem de l'Ancien Testament. Recherches d'archéologie et d'histoire. II^{ème} partie. Archéologie du Temple. III^{ème} partie. Évolution historique de la ville. Par le Père L. HUGUES VINCENT, O.P., avec la collaboration graphique du P. M.-A. STEVE, O.P. Pp. xiii-xvii, 373-809; text-figs. 111-214, pls. CI-CXLIX. Paris: Librairie Lecoffre, 1956.

These volumes of text and plates mark the culmination of Père Vincent's great work on Jerusalem, having been preceded by the first part of *Jérusalem de l'Ancien Testament* and by *Jérusalem Nouvelle*. As the author says in the preface, these studies represent the work of half a century, and of this work these volumes are a worthy monument.

It is fortunate for Palestinian archaeology that the Dominican École Biblique provides a continuing element amongst those concerned with its study. English and American archaeologists come and go, but the Dominicans are there permanently. Père Vincent has been the presiding genius for the last fifty years, and he was the pupil and scholarly heir of Père Lagrange, so the contact is carried back well into the nineteenth century. The author therefore writes with first-hand, or close second-hand, knowledge of all the explorations of Jerusalem since the dawn of scientific archaeology, and with an unrivalled topographical knowledge, on which the interpretation of so much of the evidence depends. His discussion of all the problems is thorough, in fact lengthy and discursive, and at times repetitive. His style is delightful and the picture he gives lucid.

The first part of the present volume is concerned with the Temple, and its chapters deal with the Temples of Solomon and Herod, that described in the Book of Ezekiel, to be interpreted

either as a recollection of the past or a plan for the future, and the description in the Mishnah of the Herodian Temple. In these chapters he is therefore dealing with the literary evidence. To this theme, which has occupied the attention of so many scholars, his great contribution is an unrivalled knowledge of the topography of the site, and in dealing with Solomon's Temple he has a great advantage over his predecessors in that archaeology has of recent years produced considerable comparative material, which is liberally illustrated. His siting and reconstruction of Solomon's Temple is convincing and the picture vivid, though it may be doubted whether the architectural proportions can be closely deduced from the assumption that the ancient builders worked to an architectural rhythm based on a series of ideal triangles. No Israelite remains, even of the great building period under the United Monarchy or the early stages of the Divided Monarchy, survive (and admittedly the evidence is scanty) to suggest such refinements.

The last two chapters of this part, on the Haram esh-Sherif, and the adaptation of the Temple to the Haram site, concern the archaeological evidence. For this, the author has to rely largely on the evidence from the excavations carried out by Sir Charles Warren for the Palestine Exploration Society, supplemented by his own knowledge of visible evidence. He has the greatest admiration for Warren's work, and his interpretation of the records is brilliant. One may question whether he is right in believing that Warren's account shows that part of the substructure of the great Herodian platform is in places Solomonic, but there can be no certainty unless the sections in question can be uncovered again, to be compared with the early Israelite, Phoenician style, masonry at Samaria, which Vincent believes they resemble.

The second section of the work deals with the history of Jerusalem from the earliest times to the foundation of Aelia Capitolina by Hadrian. For the period down to the Second Exile the evidence is mainly archaeological, with rather obscure literary evidence; for the earlier centuries after the return from Exile there is scanty archaeological evidence; from the first century B.C. there is full historical evidence, but very little archaeological. Of all this evidence, Vincent makes the fullest possible use. His great contribution is in dealing with the archaeological evidence, for he is the only first-rate archaeologist to have seen it all. The evidence is in fact deplorably scanty. Vincent makes a coherent story from the mutilated remnants which alone have survived thousands of years of continuous occupation, many of them revealed before excavations were carried out stratigraphically and before a sound pottery chronology was established. The published records do not inspire one to believe that it is possible to achieve certainty in dating the fragments of rough walls exposed, but one must remember that Vincent saw them himself, and, as the pioneer in classifying Palestinian pottery, could appreciate any evidence there was. He may therefore be right, but the fact remains that further excavations in any remaining untouched areas are urgently needed.

The volumes are beautifully produced and copiously illustrated by Père Steve's excellent drawings. Père Savignac's photographs have the additional interest of showing Jerusalem as it was before modern developments took place. The whole is a great contribution to Palestinian archaeology and history.

K. M. KENYON

Archaeology and the Old Testament. By JAMES B. PRITCHARD. 8½ × 5½. Pp. xii + 263. 30s.
The Ancient Near East. An anthology of texts. By JAMES B. PRITCHARD. 8½ × 5½. Pp. xix + 383. 40s. Princeton: University Press; London: Oxford University Press, 1958.

Despite the political upheavals in the Middle East, archaeological work in what are sometimes called Bible lands still continues, though for the present abated in Iraq and Egypt. But the stream of popular books explaining the subject of Biblical study and archaeological discoveries continues in full spate. Professor Pritchard's essay *Archaeology and the Old Testament* is 'intended

to serve only as an introduction to a study of those results of the past century which relate to the Bible'.

It is rather discursive and seems to hop about disjointedly without much visible plan or sense of direction; e.g. from Solomon to the finds of the Dead Sea Scrolls and back to Edward Robinson and the foundation of Palestinology in the early nineteenth century. Nevertheless, it is written in a stimulating and attractive style and is full of learning and wisdom, so that there is no one who will not derive some profit from reading it.

The *Ancient Near East* is a compendium in cheaper form of Professor Pritchard's monumental editions of larger format and greater cost, *Ancient Near Eastern Texts relating to the Old Testament*, and *The Ancient Near East in Pictures relating to the Old Testament*. This newer edition suitable for all pockets cannot be too highly praised. The most important Sumerian, Egyptian, Hittite, Assyrian, Babylonian, and Aramaic texts are given in translations by a galaxy of experts, with very brief notes where needed, while the illustrations are clear and admirably selected. For this eminently practical book posterity will owe Professor Pritchard only thanks.

R. D. BARNETT

Antique Rugs from the Near East. By WILHELM VON BODE and ERNST KÜHNEL. Fourth, revised, ed. trans. by Charles Grant Ellis. 10 × 7. Pp. 184. Berlin: Klinkhardt & Biermann, 1958. DM 25.

This English translation of the fourth edition of the late Dr. v. Bode's original *Vorderasiatische Knüpfteppiche aus älterer Zeit*, 1902, should prove useful to those who cannot read German. The new edition has added, if mournful, interest in providing details of the fate of the magnificent specimens in German museums, some of which were acquired through v. Bode and Sarre. Destruction is frequently attributed to Allied air bombardment, but I have been told that many carpets were removed from the State Museum in Berlin to improve the amenities of Red Army lorries.

It is admitted (apparently with some reluctance) that Rudenko's discovery of frozen rugs in graves in the Altai, dated to the 5th century B.C., imposes a revision of accepted theories on the history and dating of rugs (84, 181-2). The late F. R. Martin, so often treated as a romantic, seems to have been nearer the truth than his critics. On the whole the book is good value, but the translator's academic Americanese hardly does justice to the classical German of Dr. v. Bode. Gen. Kâzim Dirik's book, illustrating some rugs in Turkish museums and mosques, unrecorded before 1938, is omitted from a bibliography which repeats all the standard titles.

W. E. D. ALLEN

The Pleistocene Period: its Climate, Chronology and Faunal Successions. By FREDERICK E. ZEUNER. 9 × 5½. Pp. xviii + 447. London: Hutchinson, 1959. 42s.

Those who are familiar with Professor Zeuner's Ray Society Monograph on the Pleistocene period will welcome this new edition, which is a reproduction of the 1945 Monograph with an additional chapter, a bibliography of eighty references, and three short appendixes. Others may wish that the opportunity had been taken to bring the original work up to date by including in the text and the bibliographies some account of the not inconsiderable additions to our knowledge of the Pleistocene period that have accumulated during the past fourteen years.

For example, calculations on the basis of Milankovitch's work could be made to produce graphs which would fit the now accepted evidence that the P Gl II was more severe than the P Gl I (see pp. 110, 345 and fig. 80), and that a L Gl IV also occurred (see pp. 78, 341, 350, and 378). These facts are not supported by the original graphs reproduced in figs. 48 and 56.

As in the Ray Society Monograph, it is difficult to discover any continuous theme in the arrangement of the book. Chapters ii, iii, and ix deal with specific geological phenomena all over the world, whilst chapters iv, vii, and viii are concerned with a mixture of geology and glaciology in specific localities (East England, the Mediterranean area, and Africa (with Antarctica) respectively). Chapters v and vi, in the middle of the book, deal with the astronomical bases for absolute chronology in years B.C. However, this apparent lack of sequence is a minor criticism which does not alter the fact that these ten chapters contain a wealth of fully documented information on the climate, chronology, and faunal successions of the last ice age.

The new chapter (xi) is mainly concerned with the series of terraces along the Rhine and Thames. Two folding-map sections (figs. 77 and 78) summarize the immense amount of field work and research that lies behind these rather formidable-looking diagrams. But a careful study shows that these two figures will long remain the standards for future comparative investigations as new sections of terrace deposits become exposed.

It would have been helpful to the reader if some, even tentative, correlations had been attempted. However, such correlations are inherent in the figures when the different nomenclatures are appreciated. For example, the 'low high terrace' of the Rhine (Riss II) is evidently equivalent to the N bench of the Thames (P Gl II), and the 'high low terrace' of the Rhine (Würm I) is equated with the P bench of the Thames (L Gl I). Such correlations readily disclose the fact (not easily evident from the graphs) that the Falls Terrace (Würm IV?) of the Rhine has no counterpart in the Thames sequence and the F and G benches of the Thames (A P Gl I and II) have no counterpart in the Rhine sequence.

Nevertheless this new chapter, which also contains a section on Czechoslovakian loesses and terraces, is a most valuable addition to a book that will be in as much demand as was the original Ray Society Monograph.

As may be anticipated with a book by Professor Zeuner proof-reading has been meticulous and errors are consequently negligible. This book is likely to be a standard work of reference on the Pleistocene period for many years to come.

L. S. PALMER

Der Überfangguss. Ein Beitrag zur Vorgeschichtlichen Metalltechnik. VON HANS DRESCHER. 10½ × 8. Pp. 192 + Taf. 48. Mainz: Verlag des Römisch-Germanischen Zentralmuseums. 1958.

The author has chosen a subject about which very little has been written, much less a highly important and substantial book such as *Der Überfangguss*. It is not easy to give a concise English translation of the term *Überfangguss* but, in general, it may be taken to mean some secondary casting operation, on to or around an existing casting or forging. As an example to illustrate the technique we may cite the casting of a bronze hilt on to the iron blade of a sword or dagger. Again, it is important to note that the *Überfangguss* as a rule gave a mechanical, as opposed to a fusion or welded, connexion between the parts. The author points out that when fusion, or partial fusion, occurred it was usually by accident.

The number of objects to which the *Überfangguss* technique was applied is surprisingly large; to mention but a few, we find the method used in connexion with bronze wheels, metal-shafted halberds, hilts of swords and daggers, long pins with large ornamental heads, shield-bosses, fibulae, the attachment of lugs and handles to bowls, and also a very wide range of ornamental objects. It is often difficult, and sometimes impossible, always to detect the application of *Überfangguss* without the aid of skilled metallographical research. In a number of photomicrographs the author presents metallographic evidence, while an ample series of splendidly clear sectional drawings shows the manufacturing technique applied to a large and varied series of

prehistoric objects. In the text there is considerable matter which lies outside the general field of archaeology, but with the aid of the sectional drawings an archaeologist should have no difficulty in following the author's theme.

One most valuable aspect of Drescher's work is that it will make us think very carefully before giving an opinion, based merely upon superficial inspection, as to how many of our more complex objects of the Bronze and Iron Ages were made. A glance through the numerous illustrations will show how often one could consider that an object had been cast as a whole, perhaps by the *cire perdue* process, while in fact the author's research shows that the *Überfangguss* method was used. Important sections of the book are devoted to a discussion of the so-called welding and soldering techniques as applied to non-ferrous metals.

The main theme of the book is, of course, the application of *Überfangguss* methods, but there is also much of value and interest concerning ordinary casting methods. Here a word of warning in a matter which can be extremely misleading to students may not be out of place. Recently, there has been some tendency seriously to over-stress the place and impact of *cire perdue* casting in prehistory (for example, see *Man*, Feb. 1958, 13; March 1958, 39; April 1958, 64; Aug. 1958, 173). In this matter Drescher renders valuable service to archaeology by taking a reasonable and balanced view. He takes the correct view that direct casting in conventional moulds was used unless the *cire perdue* method offered some definite advantage. Or, as in the examples which we all know, the complex form of the object to be cast rendered the application of *cire perdue* essential. The fact remains that all through history, and today, countless thousands of one-off castings have been made by conventional methods, while *cire perdue* casting remains within its specialized field. One would not wish to deny the possibility of mass production in prehistoric times, but for mass production we must take care not to advance in thought towards 'all production'.

To conclude, we may safely say that this is an outstanding book. It should be read by archaeologists who will find much that is new in a hitherto obscure field. It is also essential to the metallurgist who is asked to report upon the more complex Bronze Age objects. In value and presentation the book is worthy of the highest praise.

H. H. COGHLAN

Die frühe Bronzezeit im westlichen Ostseegebiet und ihre mittel- und südosteuropäischen Beziehungen: Chronologische Untersuchungen. Von ROLF HACHMANN. (6. Beiheft zum Atlas der Urgeschichte, herausgegeben von H. J. Eggert.) 11 $\frac{1}{2}$ \times 8 $\frac{1}{2}$. Pp. 258 + 70 pls. + 3 tables + 18 maps. Hamburg: Flemmings Verlag, Kartographisches Institut, 1957.

The West Baltic heart-lands of northern prehistory consist of the Danish islands (with south Sweden) and the mainland up to Jutland from the lower Elbe or Weser. In the Early Bronze Age of this book, each part had its own cultural entity, the Mosbaek group (newly named) in the islands, and the Sögel on the mainland. Hachmann makes the period embrace Montelius I and also early II; it is thus nearly coeval with the British Early Bronze Age, covering a broad middle portion of the second millennium B.C., and his case for this is good. He composes it of four successive phases, each starting at a 'Horizon'. Horizon I inaugurates the Aunjetitz imports from middle Europe (and supposedly the axes from Ireland, but their beginning is less clear). At Horizon II, though both those trades went on, a quite new importation starts, of fine weapons from east Hungary and the Carpathians—Apa swords, perforated axes—and also one from east France and Switzerland, of various implements and probably socketed spearheads. Both aroused production of new native types: the Hungarian of the mainland's distinctive Sögel dirks, of the Mosbaek group's perforated axes, and of the 'Style 1' decoration of these and of mainland spearheads, which, however, rejected Hungary's curves and spirals. The author pursues the connexions

of all this through middle Europe, where they belong to south German Bronze A 2, and on to Hungary, where the Apa phase comes at the Tószeg B-C transition; lastly, he redemonstrates this phase's immediate dependence, in decorative craftsmanship, on the Mycenaean Greece of the period of the Shaft-Graves, middle to late sixteenth century. Horizon II must then lie close to 1500. Soon after, in south Germany, began the Tumulus Culture; during its first or B 1 stage (Lochham) it suddenly affected the Sögel mainland strongly, so giving Horizon III. The Wohlde dirks, which now competed with the Sögel type and soon superseded it, have the B 1 trapeze-shaped butt; their heyday came after Horizon IV, which ensued quite quickly. This reflects the start of the Tumulus Culture's second stage, B 2, with its bronze-hilted Spatzhausen swords, giving rise in the islands first to the Lerup daggers and then to the Valsomagle swords, with the circles, curves, and spirals—probably from south Germany—of their new 'Style II'. Now too appeared true palstaves, of types not only native but also west European, corresponding to the first true palstaves of Middle Bronze Age Britain; Horizon IV is presumably datable not far from 1400, so these should start by c. 1350. Back in the fifteenth century the Sögel dirks stand alongside our Wessex II midrib daggers; Wessex I daggers must precede Horizon II and so be of the sixteenth century, when our Mycenaean connexions had already begun. Hachmann deals helpfully with Wessex foreign pins, stone pendants, gold pointillé-work, and amber spacer-beads; south German spacers do not, like our Lake ones, correspond very closely with the dated Mycenaean finds, and so do not put their Tumulus Culture so early as to overlap A 2, as Childe had to think in 1948. The book gives new hope of a European synthesis for its period, and will be eagerly studied by our British specialists.

C. F. C. HAWKES

Life and Death in the Bronze Age. By SIR CYRIL FOX. 10 × 8. Pp. xxvii + 193 + 49 pls. + 84 figs. London: Routledge & Kegan Paul, 1959. 45s.

This is essentially a collected edition of our Gold Medallist's excavation-reports of Bronze Age funerary sites in Wales, which have appeared from time to time in periodicals including *Archaeologia* and *The Antiquaries Journal*. The excavations were spread over fifteen years when Fox was in the service of the National Museum of Wales; some were rescue-operations supported by the Ministry of Works. A report each by Professor Grimes and Mr. Waterman is included.

Such a work can find room for anecdote. We see Sir Cyril on hands and knees preparing a surface in mid-winter, so clothed and engrossed as to be mistaken for his foreman. The story neatly illustrates that devotion to detail, under conditions however trying, which revealed a relatively greater measure of important evidence than had fallen to any previous British barrow-excavator. Fox was the first to exploit the structures of barrows systematically, and his work on stake-circles was outstanding, much of it done with his own hands on by no means easy soils. Careful surveying was the next stage in a presentation made in collaboration with natural scientists on the staff of the Museum—a presentation of elegance in which clear and genial draftsmanship joined with a persuasive style and careful proof-reading.

Fox dug his last barrow in the early years of the last war. One cannot therefore avoid disappointment that he did not amend his statements of background archaeology to present-day views. No one could place this book in the hands of students without qualification. For instance, it is most unlikely that the A-beaker people came from Brittany (p. xvii) or that Spain was the principal source of copper in the Early Bronze Age (p. 22). Cremation was practised prior to the Bronze Age and flat urnfields were not confined to the Late Bronze Age (p. xviii). Few could now feel reasonably confident in the post-Beaker chronology of the monuments, based on pottery typology—a change of view to which Fox alludes only in afterthought (pp. 184–5).

Fox is rightly an individualist in proclaiming the attractions of British Bronze Age pottery, but, in discussing burial ritual, individuality has given intuition its head to present a view of

Bronze Age life and death in which the ecstatic is too little balanced by the mundane. 'The need of a pot suitable for burnt bones produced the overhanging-rim urn . . .' (p. 183). Surely the urn was a domestic vessel put to funerary use? Might not the discovery of hurdle-work have prompted a reference to sheep-farming as part of life in the Bronze Age, especially in view of Mr. Hyde's suggestion of local deforestation (*Archaeologia*, lxxxvii (1938), 176)? Although many primitive societies have danced at funerals, the physical evidence at the Welsh sites was discussed in only a single report, in which the possibility of iron-pans forming by chemical reaction alone was not mentioned.

But no qualification attaches to Fox's achievement in the hard art of excavation. He has already seen his influence inspire a host of barrow-diggers eager to emulate him.

HUMPHREY CASE

Die Ältere Eisenzeit in Östergötland. VON ERIC GRAF OXENSTIERN. 10 × 7. Pp. 178 + 136 figs. Lidingsö: Selbstverlag E. Oxenstierna, 1958.

The greatest value of monographs restricted in space or time lies in their use as source books. This volume is a useful addition to that genre. Wedded to a German text there is a comprehensive, well-arranged, and fully documented inventory of finds printed, for the benefit of local students, in Swedish. The illustrations are good and include a number of distribution maps. The latter are not restricted to artifacts of the Iron Age but, following the text, they give geological and climatic data and refer to Neolithic and Bronze Age artifacts.

The beginnings of the Iron Age in Scandinavia were probably influenced by adverse climatic changes. An apparent cultural regression at the end of the Bronze Age is generally attributed to the effects of this climatic deterioration and probably contributed to folk movements. Gradually, however, there is clear evidence of a readjustment to environment and the adoption of the new metal in the development of native Iron Age cultures. These were increasingly influenced by imports first from Celtic Europe and later from the Roman Empire.

These events in the east Swedish province of Östergötland are well documented in the archaeological record and competently discussed in the text of this monograph. Such detailed study is the more valuable as it is devoted to an area of Scandinavia far removed from direct contact with these foreign influences. The effect of the import of objects and ideas from a higher material civilization into less developed communities can be studied here, but only from the grave finds. Their contents and ritual suggest the growth of a warrior aristocracy. It is not always clear, however, what Östergötland exported in return for the initial artifacts of Celtic and Roman derivation which subsequently influenced local styles and, presumably, local society.

J. X. W. P. CORCORAN

Ältere Eisenzeit der Schweiz: Kanton Bern, I. Teil. VON WALTER DRACK. (Materialen zur Ur- und Frühgeschichte der Schweiz, Herausgegeben von der Schweizerischen Gesellschaft für Urgeschichte, Heft I.) 11 $\frac{3}{4}$ × 8. Pp. iv + 32 + 34 pls. Basel: Birkhäuser Verlag, 1958. Price, Swiss francs 17.50.

The Swiss Society for Prehistory is publishing a corpus of the chief assemblages of its country's earlier archaeological material (in emulation of the international *Inventaria Archaeologica*). This first part contains forty grave-groups of the Hallstatt Iron Age from the country west of Bern and around the lake of Biel; they are clearly described, fully documented, and adequately illustrated from Herr Drack's originals. Each group is placed chronologically in the phase-sequence of Reinecke's Hallstatt C (1 and 2) and D (1, 2, 3) as propounded for south-west Germany by Zürn and for Bavaria comparably by Kossack. The time so spanned is given as c. 750-450 B.C.—though the latter date is at present very approximate, and the former seems

some fifty years too high. For all purposes of reference, refinement of chronology included, such a corpus is extremely useful, and it may be hoped that the Society's labours will be long sustained.

C. F. C. HAWKES

A Handbook of Greek Art. By GISELA M. A. RICHTER. 10 × 7. Pp. 421, 4 colour plates, 507 text-figs. London: the Phaidon Press, 1959. 37s. 6d.

A Phaidon Press handbook is a notable addition to the store of general works on Greek art, and it is fortunate that the Press entrusted the writing of it to a scholar of the highest standing in this field. Miss Richter is one of the most prolific of writers on classical art, and has in the past covered nearly all aspects of the subject in her many books and articles. She has brought to her task the accumulated knowledge of long years of study and ample experience in epitomizing her own larger-scale writings.

The subject is divided into sixteen sharply-defined sections of very variable length. In each Miss Richter treats of a particular branch of Greek art. She gives a concise factual survey of each genus and illustrates it with well-chosen examples. The section on architecture, with its numerous ground-plans, seems rather dry and academic; and that on vases tends to become a bare catalogue of fabrics and painters. But the long section on sculpture provides a readable and authoritative survey; and some of the shorter sections present an original synthesis with new material brought into play.

The photographs are numerous and of high quality. While the text offers the general reader a concise, up-to-date introduction to a many-sided art, the illustrations by themselves afford a brilliant conspectus of the whole range of Greek artistic achievement. This book is good value.

J. M. COOK

Die Geburt der Aphrodite. By ERIKA SIMON. 9½ × 6½. Pp. 116 + 53 text-figs. Berlin: W. de Gruyter & Co., 1959. DM 22.

This is an iconographical study and interpretation of the so-called Ludovisi Throne and its counterpart in Boston. Though half a century of controversy surrounds these two altar-pieces, there is nevertheless room for this elegant little book with its fine feeling and unobtrusive scholarship. The author begins by contending that, provided due regard is paid to its limitations, Greek vase-painting can afford us valuable clues for the interpretation of the Ludovisi Throne; and without more ado she demonstrates this. The flowing hair and simple chiton serve to identify the central figure as Aphrodite emerging from the sea. The side figures are *hetaera* and bride, and this Aphrodite is Urania, to whom prostitution and incense are appropriate. Other scenes of the birth or arrival of Aphrodite are elucidated, and the supporting figures who convey or receive the new goddess are identified. The cloth held by the two supporting goddesses on the 'Throne' is shown to betoken a mystery; and the goddesses themselves prove to be the Moirai, of whom Aphrodite Urania was the third and most revered. Dr. Simon's argument is persuasively advanced, with copious illustration; and it is convincing.

The discussion of the Boston Throne is less straightforward. Dr. Simon is anxious to show that here also the reliefs are concerned with the Goddess of Love. She makes a number of good suggestions—that the old woman on the side panel is a slave nurse and spinning, that the young lyre-player's seat is not a cushion but a wine-skin, and that the grieving woman on the main panel is sitting on the ground (or, like Penelope, on the threshold); and she thereby helps to vindicate the authenticity of the work. But the final solution (that lovers are being weighed out, mortal to Aphrodite, immortal—but not ageless—to Eos) requires special pleading; though it is supported by well-chosen quotations from early Greek poets, it seems too sophisticated to have been readily intelligible in the language of early classical art.

J. M. COOK

From the Gracchi to Nero. A History of Rome from 133 B.C. to A.D. 68. By H. H. SCULLARD. 8 x 5½. Pp. xii + 450 + 4 maps. London: Methuen & Co., 1959. 25s.

These two centuries were two of the most remarkable in human history; but the traditional textbook has either ended or begun with Augustus, or else has austere attempted to cover both Republic and Empire, a project which only austerity could encompass and contain. Today, however, more elastic, or enlightened, syllabuses allow the student to study this transitional epoch, the birth-pangs and swift growth of a new order; and indeed it has a peculiar interest for modern man, himself in the throes of a parallel transition.

Dr. Scullard's book will, then, be widely welcomed, particularly as it is written with that breadth of interest yet economy of language which most surely indicates a master of his subject, and is fully up to date with the latest information even on such subjects as the conquest of Britain or the Dead Sea Scrolls. Dr. Scullard in his preface disclaims originality of interpretation, but the freshness of his approach will be a delight. What a pity that production costs precluded adequate maps.

S. S. FRERE

Jewish Symbols in the Greco-Roman World. By EDWIN R. GOODENOUGH. Vols. vii-viii: Pagan Symbols in Judaism. 12 x 9. Pp. xviii + 239 + 291 illustr. New York: Bollingen Series XXXVII: Pantheon Books, 1958. \$15.00.

The latest two volumes of Goodenough's encyclopaedic work (see this *Journal*, xxxvi, 1956, p. 229 and xxxviii, 1958, p. 117) continue (with by now familiar thoroughness and wealth of documentation) the evaluation of symbols which Judaism 'borrowed' from the contemporary pagan world. These express the *spirit* of a more or less 'mystic' yearning for eternal life which—and this becomes increasingly clear from the author's analysis—never ceased to complement, in 'popular Jewish faith' as well as in esoteric speculation, the *letter* of the Mosaic law and 'orthodox rabbinism'. The bull and the lion, the tree, Victory and her crown, the rosette and masks, are examined and explained. (I find the analysis of the Mask symbol, for example, particularly illuminating and a useful lesson for classical archaeologists, who are usually content to see in it a mere ornament or to force some connexion with the theatre.) Then there are what Goodenough groups together as 'fertility' symbols (cupids, birds, sheep, hare, shell cornucopia), 'psychopomps' (eagle, griffin, Pegasus, ladders or steps, the boat), and finally the 'astronomical' symbols (would not 'astral' symbols have been a better term? cf. vol. viii, p. 178), symbols so familiar in later pagan antiquity and at the same time so prominent in Jewish synagogues.

The author shows again his sovereign knowledge of the relevant literature, but if something may be added (no doubt a section of addenda and corrigenda will be useful, when the work is completed) I miss for the lion C. de Wit, *Le Rôle et le sens du lion dans l'Égypte ancienne*, Leiden, 1951; on the Mithraic Cronos the papers by R. Pettazzoni (now in English translation in his *Essays on the History of Religions*, Leiden, 1954). F. Saxl, *Mithras. Typengeschichtliche Untersuchungen* (Berlin, 1931) should have been mentioned when dealing with Mithraic and astral symbols. More use could have been made of the late W. Deonna's numerous publications on related subjects and of the works of M. Eliade. Does not the latter's admirable *Traité d'histoire des religions* offer exactly what Goodenough (vol. viii, p. 223) misses in 'almost all historians of religion'? Vol. viii, p. 172 should read LAÏLAM (= *per saecula saeculorum*?) not LILIAM, a printing error (repeated from vol. ii, p. 200) which might give rise to the idea that this is a female name related to LILITH. The cross-shaped fig. 155 (vol. vii) I rather suspect to be a recent forgery and the 'cruciform' fibula, vol. viii, fig. 30, has nothing to do with Christianity (as suggested p. 61) but is one of the most frequent types of fibula in the later Roman empire.

A. A. BARB

Town and Country in Roman Britain. By A. L. F. RIVET. 7½ × 5. Pp. 195. London: Hutchinson's University Library, 1958. 10s. 6d.

In his preface, the author modestly states that this book is meant for the intelligent layman rather than the expert student of Roman Britain. In fact, layman and 'expert' alike cannot fail to be stimulated by the thoughtful comments of the author, whose experience in preparing material for the Ordnance Survey map of Roman Britain has given him a mastery of his subject. The treatment is topical; consideration of the nature of the evidence being followed by sections on the Celtic background, the administration under Rome, Romanization in town and countryside, and finally a survey of political geography by *civitates*, with admirable bibliographies for each.

The discussion of the Iron Age background follows the traditional pattern and, disappointingly, perpetuates without adequate discussion the suggestion that the farmstead was the normal form of rural habitation. Celtic scholars and many archaeologists who know the north and west may well hesitate here. In the survey of political geography, however, Mr. Rivet has left the usual approach, with fascinating results. As he fully appreciates, it is not easy to feel equally confident about all tribal boundaries. Were the Catuvellauni, for instance, really left in possession of their recent conquests in Cambridgeshire and Northamptonshire? Despite uncertainties of this kind, the survey was well worth doing and is the crowning feature of the book.

The author's common-sense approach to inadequate evidence is seen at its best in the section on the countryside and farming, though one is tempted to wonder how far the doctrines of Roman agriculturalists like Columella were appreciated and applied in Britain. There are, inevitably, many debatable points. Is it so certain that the Fenland was a grain-growing area? And what of the dating evidence? Some sites around the Wash were certainly occupied before the end of the first century, but these appear to have been associated with brine-evaporation, while large-scale exploitation of the Fens does not appear to have begun before the second century, probably under Hadrian. The Car Dyke and the other canals and drains must surely go with this.

Perhaps the greatest weakness of the book is an apparent lack of appreciation of archaeological dating evidence. In a very brief discussion in the first chapter (p. 24) we are told that coins are 'the best dating objects of all', while pottery is swiftly and misleadingly dismissed. Probably as a result of this approach, the survey of the dating evidence for town defences (pp. 92 f.) seems to lack crispness. So far as the reviewer can see, the evidence points to a *terminus post quem* in the region of A.D. 180 for the main series of defences. On this evidence, the three known historical situations which might have prompted an imperial decision to order defences are all tenable, but the farther one goes from A.D. 180 the more the dating becomes strained. It is now known that the defences of the three early *coloniae* are later than is suggested by Mr. Rivet (p. 77), and it seems likely that they were contemporary with those of the main series of towns.

The book is modestly priced, illustrated with some useful maps and an admirable series of outline plans of towns, and thoroughly to be recommended.

B. R. HARTLEY

Excavations in Southwark, 1945-1947. By KATHLEEN M. KENYON, C.B.E., D.Lit., F.B.A., F.S.A. 9½ × 7½. Pp. 112 + pls. 8. Guildford: Research Papers of the Surrey Archaeological Society, No. 5. 30s.

This is the account of excavations carried out from 1945 to 1947 on behalf of the Southwark Excavation Committee. Five sites were examined and from these a number of important facts came to light. Dr. Kenyon found no evidence to support Professor Haverfield's theory of the earlier Roman London settlement being south of the river. She was able to show that the Roman settlement was confined to the area around the bridgehead and did not extend far south. A section of Stane Street was identified, a number of drainage ditches and perhaps one defensive or boundary

ditch were found, and evidence of fourth-century flooding, doubtless associated with the sinking of the Thames-Medway estuaries, was uncovered. All these pieces of definite evidence are of great value to students of Roman London.

Some light is thrown on the native population which settled in Roman London. The coarse ware pottery shows no Belgic influence, but instead consists mainly of Charlton type Bead Rims and Patch Grove wares, both of which have a distribution along the North Downs east of the Medway Valley and south of the Thames. In other words, to judge from the evidence of this pottery, the population was drawn from the south and west, rather than the east and north.

The price of this book, which is presumably strictly related to the cost of production, is an alarming indication of the financial difficulties which today face anyone attempting to publish the results of an excavation.

NORMAN COOK

Excavations at Camerton, Somerset: An account of thirty years' archaeological excavation covering the period from Neolithic to Saxon times, 1926-56. By W. J. WEDLAKE. Foreword by Sir MORTIMER WHEELER. 11 x 8½. Pp. xvii + 284 + pls. 23 + figs. 63. Camerton Excavation Club, 1958. 63s.

This book is an account of local archaeological activities stretching over a space of thirty years. Its reception will depend on what we seek. As a piece of archaeological research it shows the defects of the amateur approach, in particular the absence of a central controlling intelligence. Problems have been nibbled at, not solved, an outstanding example being the supposed Roman temporary camp in Longlands Field. This, if authenticated, would be of first-class historical importance. Yet it is not authenticated: we are not even given a plan of what was found: and the only evidence for dating it to A.D. 47 is a brooch which elsewhere is admitted (p. 227) to be similar to one found in a second- or third-century context. All this is woolliness at its worst.

But as a bran-tub out of which to pull exciting new random things the book contains much of interest, especially to a student of Roman Britain. Particularly deserving of mention are the plan of the Fosse Way *vicus* with its small villa and cottages in association, and the evidence obtained for pewter-manufacture so far from the source of tin. It must be remembered also that a number of the local plums (Iron Age and Saxon) were modestly handed over by Mr. Wedlake to Abbot Horne and published by the latter elsewhere. All in all it is an impressive record of thirty years' work and a demonstration of what can be achieved by the local worker who knows his area. Too often these achievements are never published; but here determination has prevailed and the record is full. In the production of the book a little sound editorial advice might have considerably reduced the price, by cutting out unnecessary photographs and pottery drawings.

S. S. FRERE

Die Gräberfelder von Lauriacum. Das Ziegelfeld. By AEMILIAN KLOIBER. 10½ x 7½. Pp. 208. 85 plates, 5 text-figs., and 2 folding plans. *Forschungen in Lauriacum*, Bd. 4/5, Linz, 1957.

This is the latest of the excellent series promoted by the Institut für Landeskunde von Oberösterreich describing planned and rescue excavation in and about the Roman legionary fortress of *Lauriacum*. The 'Ziegelfeld', covered now by the encroaching suburbs of Enns, adjoined the south-east side of the fortress. Between 1951 and 1957 about 200 graves of the late fourth century and some seventy more carrying the series down to the seventh century were found in this area, some overlying the small *Erdlager* described in Bd. II (where an outlier, a warrior's grave of the eighth century, is also published). The late Roman interments, aligned mostly parallel with the fortress-wall, produced many objects of what we here call the 'Vermand' decorative style. The buckle shown in pl. XLII is an outstanding example. A second series of graves, aligned

significantly north-west-south-east, includes all but a few of the remarkable massive cists in which sculptured stone taken from Roman buildings and very much earlier tombs was employed.

One of the main interests of this volume is the methodological chapter ii, good and useful reading. Besides the technique of investigation—soil, construction, human remains, and goods—is Kloiber's order of age and procedure, one might well say precedence—the 'biohistorical' aspect of the grave is discussed. This commonplace of prehistorical research retains something of a *callida junctura* for a later period.

The volume is well produced; the line-drawings are excellent, but the site-photographs are occasionally, and avoidably, poor. The absence of a text-index is the main defect, since the graves are numbered afresh from 1 in each year and there are no running headlines to assist reference.

GEORGE C. BOON

The Cathedrals of France. By R. P. HOWGRAVE-GRAHAM. 9 × 6. Pp. 280. London: Batsford, 1959. 35s.

The late Robert Pickersgill Howgrave-Graham was noted as a horologist, as a contributor to the history of mechanics, as a photographer, and as a lecturer. It was less known that his keenest interest for more than half a century was devoted to the medieval art of France, and especially to the great Gothic cathedrals. His personal, and indeed passionate, love of French art enabled him, in spite of age and serious illness, to complete the book under review, though not to see it published. The only signs of a faltering hand are a few unimportant misprints, and the inadvertent passing of a plan of Bourges (fig. 98) for that of Albi.

The work opens with an illuminating account, provided with clear diagrams, of the great structural problems of French Gothic, and their solutions, and deals also with the use of colour, related to its optical background. Thus prepared, the reader is conducted around the greater cathedrals, starting with those of the ile-de-France, continuing through Normandy and Brittany, the east, and the south, and concluding with two chapters on the important residue, and the minor cathedrals. Apart from a few post-medieval cathedrals (Alais, Castres, Die, Montauban, Nancy, and La Rochelle), almost all are dealt with, including several small but interesting churches quite neglected by the tourist. A valuable feature is the information given on the character and colour of the building stones used.

The text has the highly individual quality of a personal guide to the special beauties and points of interest in each church, and the author's friends will be vividly reminded of his enthusiasm and gift for exposition. A much wider public will appreciate the wealth of valuable information here brought together on a group of buildings possibly the most remarkable in history, and their magnificent illustration in a series of half-tone plates from photographs, many of them by the author.

JOHN H. HARVEY

English Country Houses. Late Georgian, 1800-1840. By CHRISTOPHER HUSSEY. 12½ × 9½. Pp. 255 + 472 illustrations. London: Country Life, 1958. £6. 6s.

This is the last volume of Mr. Hussey's series on Georgian country houses, and it is in many ways the most interesting. The houses which formed the subject of his two earlier books were for the most part the splendid creations of a small but powerful aristocracy playing Maecenas to the comparatively limited number of men who made up the architectural profession of their time. Together patron and architect planned and perfected such masterpieces as Holkham and Houghton, Wanstead and Wentworth Woodhouse—palaces in which giant orders and domes and porticos spread over many acres and proclaimed allegiance to the classical tradition. By the end of the eighteenth century, however, the long domination of classicism was waning, and country

house architecture underwent a marked change as to both size and character. A few vast mansions were still to be built or remodelled, such as Ashridge and Belvoir and Harlaxton; but from the turn of the century country houses tended to be less ostentatious and far more numerous. No longer regarded primarily as a symbol of prestige or aggrandizement, they expressed instead the individual taste of their owners, and the growing realization that comfort was preferable to grandeur, and elegance by no means incompatible with modest proportions.

The dominant factor underlying the change from conformity to eclecticism of style was the Picturesque movement, of which Mr. Hussey gives an illuminating exposition in his Introduction to the final volume. This philosophy of visual values was widely disseminated by the publication of Richard Payne Knight's didactic poem 'The Landscape', and Uvedale Price's 'Essay on the Picturesque', both of which appeared in 1794 and were followed a year later by Repton's influential 'Sketches and Hints on Landscape Gardening'. All three writers stressed the importance of the relation between a house and its setting, and in particular the merits of irregular grouping and varied texture. Thus ancient buildings of heterogeneous appearance, which had been anathema for close on a century, now came into their own again, and asymmetry was deliberately introduced into new designs, as in John Nash's remarkable expression of these concepts at Cronkhill.

Of the twenty-two houses selected by Mr. Hussey for detailed description, and the further twenty-seven illustrated in the Introduction, a few remain loyal to the classical style while the rest range from Sir Charles Cockerell's 'Indian' fantasy at Sezincote to Hopper's Penrhyn Castle in the 'Norman' style. They provide fascinating material for the study of a generation which, having acquired freedom of architectural expression, still observed the principles of classical proportion, and thus produced some of the most satisfying and livable houses of all time.

DOROTHY STROUD

The Victoria History of the County of Stafford. Vol. IV, Staffordshire Domesday and West Cuttlestone Hundred. Pp. xxiii + 197. Vol. V, East Cuttlestone Hundred. Pp. xxiii + 199. Ed. by L. MARGARET MIDGLEY. 12 x 8½. Published for the Institute of Historical Research by the Oxford University Press, London, 1957, 1958. Cloth 84s., half leather 126s., each.

The welcome appearance of these volumes marks the resurrection of the *V.C.H.* in Staffordshire as a result of the now familiar post-war change in sponsorship in this county as elsewhere. The County Council and the County Boroughs bear the cost of compiling and editing the History. They are fulfilling their moral obligations, and in due course all the services under their control will benefit in varying degree. Although the two volumes are numbered IV and V, they are the first to be issued under the County History's new patronage (Vol. I having been published in 1908), Vols. II and III being reserved for the general accounts.

The Domesday article in Vol. IV by C. F. Slade leaves little to be desired. The translation of the text is fully annotated as regards identifications of difficult holdings. In his 35-page introduction, he makes the best use of a rather prosaic section of the Survey. Two-thirds of Vol. IV and the whole of Vol. V form the 'topographical' history of one large hundred in central and west Staffordshire, covering about one-sixth of the county. West Cuttlestone is agricultural, but East Cuttlestone has considerable industry. The editorial note draws attention to one special feature. The buildings, both ecclesiastical and secular, within the area, 'have never before been seriously investigated or described'; consequently they have received more detailed treatment than succeeding volumes will receive.

A high standard of scholarship and accuracy was ensured by the choice of Miss Midgley as general editor; she also wrote some of the individual parish histories, but resigned in 1956. She and the other contributors were, of course, very fortunate in being able to draw freely upon

material (including 'Staffordshire Views') in the William Salt Library, Stafford, and the Staffordshire Record Office, and in the noble series entitled *Collections for a History of Staffordshire*, published by the Staffordshire Record Society (formerly the William Salt Archaeological Society).

To the usual pattern of manorial descents have been added somewhat similar accounts of the 'lesser estates'. The architectural descriptions, by Miss Margaret Tomlinson in collaboration with Mr. G. R. Rigby (medieval churches) and Mr. S. R. Jones (timber-framed buildings), are outstanding: five plans showing the suggested development of the nave roofs of Brewwood Church, thirteenth to nineteenth centuries, typify their helpfulness. The sketch-maps of complex parishes such as Cannock and Rugeley are a boon.

Mills, parks, markets and fairs, schools and charities are well covered. A disproportionate amount of valuable space is given to twentieth-century non-Anglican churches, e.g. 'Mass has been said one Sunday a month in a private house at Coton by a priest from Stafford (St. Austin's) since 1953'. In contrast, the volumes lack the useful parish government sections initiated by Mr. W. R. Powell for the Essex V.C.H. Woods, agriculture, and inclosure have separate sections in some parishes. 'Common fields', a misleading and outdated term for 'open fields', occurs much more frequently than the latter (which had been adopted even as far back as 1931 in *Coll. for a Hist. of Staffs.*). The student interested in this aspect of agrarian history is not provided with any help in the index and has to search each parish article. Coal-mining is adequately dealt with (but is represented in the index only under 'Industries'). There is much useful, though scattered, material on canals (unindexed).

F. G. EMMISON

The Victoria History of the County of Cambridge and the Isle of Ely. Vol. III. The City and University of Cambridge. Ed. by J. P. C. ROACH. 12×8½. Pp. xx+504. Published for the University of London Institute of Historical Research by the Oxford University Press, London, 1959. £7. 7s.

This is the third, and the second regional, volume of the *Cambridgeshire Victoria County History* to have appeared since the War. Although planned on similar lines, in the event *Oxford* and *Cambridge* have taken different forms. One volume (1954) dealt with Oxford University: a second will embrace the city. The civic and academic histories of Cambridge are contained within the same cover, but the university has been allotted as much room as its sister.

In a masterly survey of 29 pages (pretty equally divided between the medieval and modern periods) Professor Helen Cam takes the town's story down to 1951 when Cambridge became a city. Comparisons with Oxford strike the reader: e.g. the Cambridge 'town and gown' troubles connected with the Peasants' Revolt of 1381 and the St. Scholastica's Day riots at Oxford in 1355, and the anti-Royalist attitude displayed by both towns in the Civil War. In later politics the Rutland influence at Cambridge is matched by that of Marlborough and Abingdon at Oxford, but the latter can show nothing to equal the Mortlock domination of Cambridge from 1784 to 1820. Of the richly documented special subjects (mainly the work of Professor Cam) which complete the city's 149 pages, the full constitutional history (this commendably includes the town waits but lacks a list of mayors) is of especial interest and importance: the economic history (with its careful study of Sturbridge fair) and the topography are also valuable. Architectural information is regrettably scanty owing to editorial reliance for building material on the Cambridge volume of the Royal Commission on Historical Monuments. The accounts of schools and almshouses (by Miss Susan Reynolds) are marred by some irrelevant details and are not always easy to follow.

For the university section, Cambridge has enjoyed the advantage of Oxford's example. We find much the same arrangement, but the proportions are in striking contrast. Whereas the

university article (chiefly written by Dr. Roach) occupies 183 pages against Oxford's 60, that on the colleges (compiled by as many different hands) has only 165 pages to Oxford's 293. True, the general Cambridge University history is printed in larger type than that used for the colleges and is not in two columns, while Oxford possesses a greater number of societies, but, even so, a more summary method has been followed for those of Cambridge. This is largely due to the somewhat cursory descriptions of buildings resulting from the policy (not adopted by Oxford) already mentioned. The elaborate account of King's is a notable exception. We miss the plans provided for the Oxford colleges and the extensive use of manuscript sources for their architectural development. More system should have been employed in the manner of listing heads of houses, pictures, and plate: why are Clare's portraits ignored?

Space saved on the colleges has, however, enabled Dr. Roach to write a detailed, but unbalanced, history of the university down to 1956. The Middle Ages are treated comparatively briefly: nearly half of his 162 pages is devoted to the period since 1800, and over a quarter is concerned with the story of the last seventy-five years. The inclusion of accounts of the archives, seals, and insignia (by Mr. C. R. Elrington) is a welcome feature, omitted by Oxford.

The unhackneyed illustrations have been chosen with an eye to the life of the city and the university—occasionally perhaps also to the picturesque—rather than the buildings. Except for reproductions of two Loggans, there is nothing earlier than 1730. It is a pity to have wasted a precious plate on a group at New Hall. The indispensable index (which should surely have been supplied here and now) will be clamorously awaited.

MARGARET TOYNBEE

The Map of Great Britain, circa A.D. 1360, known as the Gough Map. Facsimile in 2 sheets, with overlays in 4 sheets; $23\frac{1}{2} \times 25\frac{1}{2}$. Introduction by E. J. S. PARSONS, with 'The Roads of the Gough Map' by Sir FRANK STENTON; $12\frac{1}{4} \times 9\frac{3}{4}$; pp. 38. Oxford University Press, for the Bodleian Library and the Royal Geographical Society, 1958. 50s.

On 5 May 1768 Thomas Martin exhibited to the Society of Antiquaries 'a very antient MS. Map, on Vellum of Great Britain. . . . He deems it to be about the Age of K. Edward 3rd'. This entry in the Society's minute-book is (as Mr. Parsons notes) the 'earliest known reference' to the most remarkable, and in some respects perplexing, of medieval English maps. In 1774 it was purchased at Martin's sale by Richard Gough, who described it in his *British Topography* (1780), and in 1809 it passed by Gough's bequest to the Bodleian.

The fine facsimile in colour collotype by the Oxford University Press supplants earlier reproductions and for the first time makes the map available for general study. Transparent overlays show the place-names of the Gough Map, which are also listed and discussed in the Memoir, and their position on a modern map to the same scale. This is Mr. Parsons's most valuable contribution to the study of the map, for even on the original many names can now be read only in ultra-violet light.

From palaeographical examination Mr. Parsons dates the map to the second half of the fourteenth century, more precisely—from rather tenuous internal evidence—soon after 1350. An 'official' origin is suggested by the character and scale of the map and by the possibility that, before Martin owned it, it had been in the possession of Peter Le Neve. Other copies of the map, now lost, appear to have served as models for manuscript and printed maps of the first half of the sixteenth century.

The map, as Gough observed, 'may justly boast itself the first among us wherein the roads and distances are laid down'. It is a primary document for medieval communications, and Sir Frank Stenton has inferred from it the existence of 'a system of national highways extending into every corner of the land' and centred on London. In his 1936 paper (*Econ. Hist. Rev.*, vii, 7-19), part

of which is here reprinted, Sir Frank also pointed to the high proportion of agreement between the distances of the Gough Map and the customary, or 'computed', mileages recorded in John Ogilby's road survey three centuries later. In the Gough Map, as Mr. Parsons shows, the outline and proportions of Great Britain are in general strikingly accurate, and this 'cannot be dismissed as chance'. Yet, so far as our knowledge goes, its compiler can have disposed of no map-prototype, no instrumental technique for angular measurements (with the possible exception of the magnetic compass), few precise determinations of latitude and none of longitude. Linear distances, whether measured or estimated, along a series of route traverses or itineraries will hardly, without extensive adjustment, provide a framework for the map of so large an area as Great Britain; but the conclusion that this was the method adopted in the preparation of the Gough Map is as inescapable as it is unexpected.

R. A. SKELTON

The English Library before 1700: studies in its history. Edited by FRANCIS WORMALD and C. E. WRIGHT. 8½ × 5½. Pp. xi+273, with 23 pages of plates. University of London: the Athlone Press, 1958. 35s.

This volume is not a systematic survey of English libraries, but is a collection of separate essays, each complete in itself, on various important aspects of the central theme. A general introduction by Raymond Irwin introduces authoritative studies on 'The Monastic Library' by F. Wormald, 'The Bibliography of the Manuscript Book' by G. S. Ivy, 'The Universities and the Mediaeval Library' by C. H. Talbot, 'The Contents of the Mediaeval Library' by R. M. Wilson, 'The Private Collector and the Revival of Greek learning' by Roberto Weiss, 'The Preservation of the Classics' by M. D. Knowles, 'The Dispersal of the Libraries in the Sixteenth Century' by C. E. Wright, 'The Elizabethan Society of Antiquaries and the Formation of the Cottonian Library' by C. E. Wright, 'The Libraries of Cambridge, 1570-1700' by J. C. T. Oates, and 'Oxford Libraries in the Seventeenth and Eighteenth Centuries' by J. N. L. Myres. There is a select bibliography. Footnotes are relegated to the ends of chapters. A good index contains useful references, arranged under libraries, to individual manuscripts cited. The section in the index devoted to the Bodleian omits a reference to the Leofric Missal (cited on p. 27) and is misleading, as the alphabetical series of shelf-marks is preceded by seven unexplained numbers. These should have been described as 'MSS. Bodley' and gone in their alphabetical position between MSS. Auct. and Canon. Gr. 'The Bibliography of the Manuscript Book' includes a paragraph on illumination. This is left to the end as the place where it is said properly to belong. Not all medieval illustration, however, was a mere embellishment of a text. There are important examples of medieval manuscripts, forerunners of the later block-books, in which pictures were the prime purpose of the book and in which texts were as secondary as captions in modern films or comics. Of these and of their production nothing is said. As librarian of one of the few early English family libraries still in its proper ownership, this reviewer is sorry to see a statement in the preface that Thomas Coke, Viscount Coke and later Earl of Leicester, was the real originator of the library at Holkham. Neither of the Thomas Cokes who added to their family library and were later Earls of Leicester was ever Viscount Coke. Earlier strata of the library were the libraries of Sir Christopher Hatton and his heiress's husband Chief Justice Coke. The Chief Justice's library was of particular interest as the working tool of a great practical man and its founder was very proud of it. In fact it was larger than the library of his University of Cambridge, but such libraries are not relevant to any of these studies. So far as the subjects covered by the contributors are concerned, this book, as the work of experts, says the last word and fills the reader with delighted admiration.

W. O. HASSALL

Blind Panels of English Binders. By J. B. OLDHAM. 14½ × 9½. Pp. xvi + 56; pls. 1-LXVII. Cambridge: at the University Press, 1958. £5. 5s.

This work is a sequel to Mr. Oldham's *English Blind-Stamped Bindings* (1952), which, in spite of its title, deals only with roll-stamped bindings, or those on which the decoration has been produced by means of a circular tool with the design engraved on its circumference. This was one development of the earlier small hand-applied stamp; the other was its enlargement to form the panel stamp, applied with a press. Mr. Oldham now completes twenty years of study with the work under review, which deals with the use in England of panel stamps which, though they were a Netherlandish invention of the late thirteenth century, reached England about 1480, had their heyday between 1510 and 1535, and disappeared almost entirely about 1550.

Blind Panels of English Binders is mainly a *catalogue raisonné* with a full and clear description of each of the 256 panels concerned and with beautiful illustrations in exact size. The author has classified the panels according to their subject and has provided them with individual references similar to those in his earlier work (e.g. AC, acorn panels; HE, heraldic; HM, heads in medallions). He continually refers to the owners of the panels as binders, but much of the evidence leads one to the conclusion that most of them were stationers or booksellers, and that the panels often occur on copies of books ready bound for sale. This would explain the existence of so many French panels used in England. The work has already taken its place, along with its companion volume, among the classics of the literature of bookbinding.

WM. S. MITCHELL

The Peterborough Chronicle, 1070-1154. Ed. by CECILY CLARK. 8½ × 5½. Pp. lxx + 120. Oxford University Press, 1958. 30s.

In this fifth volume of the Oxford English Monographs the author has provided an authoritative text of the *Chronicle* annals 1070-1154, MS. Bodley Laud Misc. 636, which in their frank account of the reigns of the Norman kings constitute a unique record of contemporary English opinion. Whatever may be lost by divorcing the first thirteen years of this *Chronicle* (known as E) from the only other text of the *Chronicle* to continue in post-Conquest times—D, MS. Cotton Tiberius B. iv—is more than compensated for by a new analysis of the Peterborough continuation.

Miss Clark rightly stresses the importance of the 1122-31 annals, whose literary and historical interest has too often been underestimated in comparison with the highly coloured account of the years 1132-54. (More justice might have been done, however, to the annals 1083-7.)

In the introduction most attention is devoted to a study of the language of the text, where the author has shown beyond doubt the importance of the 1122-31 annals for illustrating the evolution of many Middle English forms previously held to have developed rather later. There is also a clear summary of the textual relations and historical value of the text, which includes interesting comparisons with contemporary Anglo-Latin works whose material supplements and complements the *Peterborough Chronicle*.

The commentary on the text is ample, succinct, and well documented and includes explanations of some of the more difficult words in the text. The general reader, however, will lament the lack of a Glossary, which, as the author explains, was 'too bulky and expensive to include'.

ROSEMARY CRAMP

The Colour of Heraldry. 8½ × 11½. Pp. 44 + 32 pls. in colour. The Heraldry Society, 1958. 35s.

The illustrations of this book are coloured reproductions of medieval effigies, which our Fellow Mr. Gerald Cobb originally designed for *The Colour of Chivalry* published by Imperial

Chemical Industries, who have lent the plates to the Heraldry Society for republication. This is to be welcomed, although judged purely as a picture book the result is not wholly satisfactory. The colours lack depth, and the figures detached from their setting sometimes look grotesque. The text is admirable and full of interesting suggestions. It is a pity that there is no preface to explain on what principle the subjects of the plates were selected, and also it would have been useful to have had some comment on the painting of effigies in the middle ages. Coloured plates based on brasses are liable to mislead. The references are totally inadequate and the index could be improved.

T. D. TREMLETT

The Functional Tradition in Early Industrial Buildings. By J. M. RICHARDS. 9½ × 7. Pp. 200. London: The Architectural Press, 1958. 36s.

This book, as its author modestly admits, is 'primarily a picture book'. As such it has few failings. The brief introductory essay on the 'functional tradition' is lively and provoking, while the two hundred-odd illustrations which follow maintain a commendable standard of photographic reporting. Most of them are by Mr. Eric de Maré. The photographs are grouped in ten sections. Each section has a short preface, and the photographs are accompanied by captions giving dates, designers, and other relevant information.

The introductory essay implies that building is at its best when it arises from close analysis of the needs it has to serve rather than from a preoccupation with embellishment; that such building is especially characteristic of the industrial revolution of the eighteenth and early nineteenth centuries; and that our contemporary architectural dilemmas can be resolved by the same utilitarian approach today.

A reviewer in this journal, fortunately perhaps, need not feel obliged to pronounce on these contentions. Aquinas would probably have approved of them, and maybe Aristotle also. The functional tradition itself is as old, doubtless, as Adam.

The buildings the author describes, even allowing for his skilful presentation, are of absorbing interest. One asks oneself whether authority is alive to the urgent need for proper recording of them. Large and obsolete, unknown or unloved by the more vocal preservationists, they are clearly destined to rapid destruction. As their strictly architectural qualities are generally secondary, the task is presumably one for a carefully chosen team capable of appreciating the specialized purposes for which the buildings were designed or re-adapted. Even such a team would need to work with almost superhuman speed and discrimination if the diminishing opportunities are not to be missed.

Mr. Richards's book comes as a timely reminder that there is an archaeology of yesterday with demands scarcely less insistent than those exerted by that of the remoter past. PETER EDEN

The Dictionary of Welsh Biography down to 1940. Under the auspices of the Honourable Society of Cymmrodorion. 9½ × 6½. Pp. lvii + 1157. London: 50 Bedford Square, 1959. £6. 6s.

In 1937 the Council of the Honourable Society of Cymmrodorion instructed Professor R. T. Jenkins to prepare a plan for a single-volume dictionary of Welsh biography of 'approximately one thousand pages'. The editors, the chief of whom was the late Sir John Edward Lloyd until he was succeeded in 1943 by Professor Jenkins, worked within this compass, and in 1953 a Welsh edition appeared. The present volume, containing some 3,500 articles, including 180 on families, is in the main a translation of the Welsh edition, with corrections, revisions, and an appendix of over 100 additional articles.

It contains a representative selection of Welsh people of all classes and interests, also those of

non-Welsh extraction who contributed to Welsh life. Some are Welshmen who became famous beyond the land of their fathers, as Owain Lawgoch, Henry VII, Judge Jeffreys. Literary figures, churchmen, and ministers are particularly numerous, but industrialists and professional people also find their rightful place. A sprinkling of 'impostors and other predatory characters' justifies Professor Jenkins's remark that 'a portrait of society must not leave out the warts'.

A noteworthy feature is the number of articles on members of the old ruling class whose contributions to Welsh life have been more significant than has been generally supposed. Indeed, from the earliest period until well after the close of the Middle Ages, practically all the notables (including the Welsh saints) were members of the native royal or noble families, and it would seem that not until the late seventeenth century did any leadership or uncommon quality emerge 'from below'. The articles will do much to emphasize the value of the contributions made to the nation by this kind of people.

As stated in the introduction, a certain emphasis has been placed on the biographies of the Tudor and Stuart periods—periods which have not received in Wales the full attention of definitive scholarship. That the editors have borne in mind the necessity for throwing further light on these less-explored periods will be regarded as an example of responsible treatment expected from scholars of their distinction.

Contributions have been made by over 300 writers. The result is an impressive monument to the industry of the writers, the skill of the editors, and the vision of the sponsors of the undertaking. It was the wish of the late Sir John Edward Lloyd for the book 'to be useful not only to the general reader but also to the advanced students of the history of Wales'. This, and more, has been achieved.

FRANCIS JONES

A Dictionary of British Surnames. By P. H. REANEY. 9 $\frac{3}{4}$ × 7 $\frac{1}{4}$. Pp. lix + 366. London: Routledge and Kegan Paul, 1958. 70s.

It is over half a century since Bardsley's well-known *Dictionary of English and Welsh Surnames* was published, and during that period much new source material has become available for the study of this topic and several notable books from Uppsala and Lund (amongst them Dr. Olof von Feilitzen's study *Pre-Conquest Names in Domesday Book* and those by Redin, Tengvik, Fransson, and others) have clarified many of the problems of personal nomenclature and the principles of their formation. A new dictionary was certainly needed for these reasons as well as the more obvious one that neither Bardsley's nor Harrison's work has been available for a long time. Dr. Reaney's dictionary is a very well-documented list of the principal surnames in use in Britain with etymological notes of the greatest value. The surnames are arranged alphabetically, and in each entry the modern variants are grouped and early spellings of the surnames are cited with etymologies. Where a surname has different origins the spellings (from a wide selection of medieval documents) are arranged in different sections each with its etymology. It is not always clear, of course, to which of the alternative etymologies the modern variants of the surname belong, and indeed it would not generally be possible to ascribe each modern variant to its precise source without going into problems of family history which are beyond the scope of Dr. Reaney's study and without a great deal of documentation from later sources which would not be possible in a book of this size.

Certain surnames derived from well-known place-names are omitted, since the origin of the place-name can largely be traced through the usual gazetteers and the publications of the English Place-Name Society; what is included or left out represents Dr. Reaney's judgement. The reader will not find *Leeds*, *Marsden* or *Sutherland*, but he will find *London*, *Bradford*, or *Murgatroyd*. But the variant origins of surnames of this kind which now have the same form (like *Buxton*) but are derived from one or another of the place-names of that form or other sources (in

this case an Old English personal name *Bucstān*) have necessitated the inclusion of place-name types, including very common ones like *Ash* or *Caldecot* which are not so easily located. The principal surnames included are therefore those which originate as personal names (like *Ledgery* or *Rowarth*) or diminutives of them (like *Dudden* or *Hewkin*), patronymics (like *Hopkinson* or *Sisson*), occupational names (like *Brackner*, *Dubber*, or *Hornblower*), toponymics (like *Brabner* or *Cornish*), nicknames (like *Brown*, *Drinkwater*, or *Sheepshanks*) and metonymics (such as *Cheese* for *Cheeseman* and the like); the last type provides a very interesting problem in surname study, and Dr. Reaney's explanation of it is convincing but needs more documentation of an unambiguous kind. These various types and their origin are discussed in a very interesting introduction where Dr. Reaney has brought together many of those significant and isolated facts that are so rewarding a feature of this kind of research. The reader can be assured of the scholarly treatment and many interesting etymologies can be accepted with confidence. Though a few surnames like *Boyle*, *Coghill*, *Murrow*, *Petty*, or *Savile* make no appearance, this comprehensive dictionary will be of the greatest value to philologists, genealogists, and local historians and others dealing with English archives. But many will not find their own names in the list, especially if they are of place-name origin, as already noted. Dr. Reaney is to be complimented on having offered so much in so economical a way and the publishers on a very legible reference book. If a further issue of this dictionary is called for, as it should be, it is to be hoped that many of the 4,000 names which Dr. Reaney has had to leave out will be restored.

A. H. SMITH

The Place-Names of Derbyshire. By K. CAMERON. 8½ × 5½. Pp. lxxiv + 829, with a map of the county and 6 distribution maps in pocket. English Place-Name Society, vols. xxvii, xxviii, xxix. Cambridge: at the University Press, 1959. 3 vols., 35s. each.

Dr. Cameron is to be congratulated on the appearance of this long-awaited work. It is full and comprehensive and eminently worthy of the series in which it appears. Particularly noticeable is the attention devoted to field-names. Both its topography and its situation made Derbyshire something of a backwater. The Celtic element is widely spread but found chiefly in the hilly north-west in the names of rivers, woods, and particularly of hills, which are not necessarily proof of the existence of Celtic villages. Anglian settlement was late. Some appear to have entered the county along the Trent basin late in the sixth century and to have passed north. Others came in from the north-east and the north-west. There is evidence of heathen worship, but no archaic name in *-ingas* or *-ingaham*. Evidence for Scandinavian settlement is slight compared with neighbouring counties, but included both Danes and Norwegians, whilst hybrid names suggest close contact with Anglians. That the Danish *thorp* was a living element after the Conquest is proved by such names as *Jordanthorpe* and *Williamthorpe*.

It is not easy to get a clear picture of this complicated settlement from the very full introduction, which is overloaded with detail. Much of this might have been relegated to footnotes and one or two illustrative maps given. There is a tendency, too, to press the evidence too far. *Limb Hill* in *Dore* is taken as an old Celtic wood-name parallel with the Lancashire *Lyme* and *Morley Lime* in the south-east (described as a wood in the thirteenth century). But it is not recorded before 1330 and then from personal names. It is probably a manorial name, denoting the lands of a family from Lancashire or Cheshire. OE *hlāw* may mean either 'burial-mound' or 'hill' and is not a suitable element for speculation as to the extent of heathen settlement. The distribution maps show a preponderance of this element in the hilly district where there was little or no early settlement.

Buxton is explained as 'rocking stone(s)' or 'buck stone(s)'. Is 'rocking stone' possible? And

what are 'buck stones'? For Grindleford, derived from **gryndel* 'grindstone', the meaning suggested is 'ford which was ground away'. Surely the reference is to the Derbyshire *grindlecock* 'a worn-out grindstone', used as a solid base for the ford just as they often were for stepping-stones in the Sheffield district. Hallsteads Farm in Chapel en le Frith, *Haroldeshallestede* Hy 3, explained as 'Harald's hall-site', is a combination of two distinct names, *Harhald* Ed 4 and *Halstede* 1584, *Harrold et Halstead* 1607, respectively from OE *hār* 'grey' and *hald* 'shelter, refuge, stronghold', 'grey stronghold', and *hald-stede* 'stronghold-site'. There is an encampment near Castle Naze. So, too, The Halsteads in Hope, also taken as 'hall-site', is the site of the Roman camp near Brough.

P. H. REANEY

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NACHRICHTEN AUS NIEDERSACHSENS URGESCHICHTE, Heft 27:— Dreischichtiger Grabhügel der Einzelgrabkultur bei Holzhausen, Gem. Wildeshausen i. O., von J. Pätzold; Feuersteinwaffen-Funde im nördlichen Harzvorland, von O. Thielemann; Eine reiche Bestattung der jüngeren Bronzezeit aus Alfstedt, Kreis Bremervörde, von G. Jacob-Freisen; Eine Alsenngemme von Pennigsehl, Kreis Nienburg, von J. Gutmann.

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Nesselhauf; Alamannische Buntglasperlen von Böttingen, von A. Rieth; Physikalisch-chemische Untersuchungen an Glasperlen der Merowingerzeit, von E. Denninger; Ein frühalamannischer Grabfund von Gundelsheim, von R. Roeren; Zur Neuaufstellung der vor- und frühgeschichtlichen Sammlungen des Württembergischen Landesmuseums Stuttgart, von S. Junghans.

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Afl. 2:—The churches of Bishop Bernold, by E. H. ter Kuile; Beeckesteyn House near Velzen, by J. J. F. W. van Agt.

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oldest Icelandic code of law, by O. Lárusson; Alcuin and the Icelandic code of law, by O. Widding; A group of penannular brooches of the Viking period, by D. M. Wilson; The bishop's palace at Kirkwall, by W. D. Simpson; Topographical and archaeological investigations in the Norse settlements in Greenland, by C. L. Vebæk; King Olaf Goðröðarson, by J. Jóhannesson; Husbygning i vikingetidens Danmark, by T. Ramskou; The Icelandic climate, by P. Einarsson; Theodoricus Monachus and the Icelanders, by E. F. Halvorsen; Earl Thorfinn the Mighty and the Brough of Birsay, by S. Cruden.

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Ein spätgotisches Schwert im Dom zu Västerås, von H. Seitz; Svante Nilsson Stures Siegel, von A. Andersson.

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6th November 1958. Stanley Thomas: The cultural pattern of the Secondary Neolithic.

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20th November 1958. Professor W. E. S. Turner, F.S.A.: A technical study of the Portland Vase.

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8th January 1959. Prince D. Obolensky, Mr. J. L. Hobbs, Mr. A. H. Hall, Mr. D. J. King, Miss R. J. Cramp, Mr. F. W. G. Hamilton, Mr. D. N. Riley, The Ven. C. J. Grimes, Mr. R. H. Goodsall, Mr. K. A. Macmahon, Mrs. A. Owen, Mr. K. K. Andrews, Mr. P. Shearman, Mr. R. A. Russell, Mr. B. Fagg, Mr. F. Barnes, Mr. W. G. Prosser, Mrs. A. Bagot, Mr. O. H. Olsen, Mr. F. W. Halfpenny, and Mr. R. C. Mackworth-Young were elected Fellows.

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22nd January 1959. J. T. Smith, F.S.A., and C. P. Stell: Baguley Hall: the survival of pre-Conquest building techniques in the fourteenth century.

29th January 1959. John Wachter, F.S.A.: Recent excavations in medieval Southampton.

5th February 1959. Dr. D. B. Harden, F.S.A.: Domestic window-glass in the Roman and Medieval periods.

12th February 1959. Graham Webster, B. R. Hartley, and J. P. Gillam, FF.S.A.: The Water Newton excavations, 1958.

19th February 1959. Mrs. O. P. F. Brogan F.S.A., and Dr. David Smith: Tombs and shrines in the interior of Roman Tripolitania.

26th February 1959. Dr. D. Storm Rice, F.S.A.: A Muslim relic of St. Thomas of Canterbury.

5th March 1959. Père Roland de Vaux, O.P., and M. Jean Vallery-Radot were elected Honorary Fellows. Mr. B. M. Watney, Sir Iain Moncreiffe, Mr. D. J. Wiseman, Mr. R. C. Shaw, Mr. W. Barker, Mr. R. M. Organ, Mr. P. J. Parr, Mr. E. D. Jones, Mr. F. J. W. Hardings, Mr. S. Rees-Jones, Lt.-Col. C. B. Appleby, Mr. A. W. Ecclestone, Mr. E. N. Norman-Butler, Professor J. G. Edwards, Dr. B. W. Smith, Professor E. M. Carus-Wilson, Mr. E. Pyddoke, Mr. G. H. Tait, Mr. D. M. Wilson, and Mr. E. M. Burgess were elected Fellows.

12th March 1959. Professor W. B. Emery, F.S.A.: A Middle Kingdom Egyptian fort at Buhen.

19th March 1959. S. S. Frere, F.S.A.: Verulamium 1958.

9th April 1959. M. R. Holmes, F.S.A.: A carved wooden head of Elizabeth I from the Tower of London.

16th April 1959. Dr. R. A. Brown, F.S.A.: King Edward's clocks; A. R. Dufty, Secretary: Corfe Castle.

Anniversary Meeting, 23rd April 1959, St. George's Day. The following report of the Council for the year 1958-9 was read:

Research.—Excavations at Verulamium were continued under the direction of Mr. S. S. Frere, F.S.A.; a Fourth Interim Report will be included in the next number of the *Antiquaries Journal*.

The Society has sponsored the formation of a Cirencester Excavation Committee under the chairmanship of Professor I. A. Richmond, V.-P.S.A., which is to undertake work within the Roman city of Corinium under the direction of Miss K. M. Richardson, F.S.A.

The Society was also represented on the Water Newton Excavation Committee which undertook emergency work ahead of road-building in the vicinity of the Castor potteries at Durobrivae. A first account of the results has been laid before the Society.

Grants from the Research Fund have been made to: the Verulamium Excavation Committee; the Cirencester Excavation Committee; for work on the monuments adjacent to the Druids' Circle, Penmaenmawr; for the Danes' Camp, Bredon Hill; the Roman site, Waddon Hill, Dorset; the Camerton Excavation Club for the Roman mausoleum, Nettleton, Wilts.; for the Battle Ditches, Saffron Walden; for the hilltop settlement at Castell Odo, Caernarvonshire; for a mound on the mainland near the Brough of Birsay.

Publication.—Research Report No. XX (*Roman Colchester*, by M. R. Hull, F.S.A.) was published jointly with the Corporation of Colchester in 1958. The *Coptos* sheet of the *Tabula Imperii Romani* series, compiled by Dr. David Meredith, was also published in 1958, with the generous aid of grants from numerous colleges and universities.

The *Antiquaries Journal* has appeared regularly, and Volume 97 of *Archaeologia* was issued in the summer.

Croft Lyons Fund.—The illness and death of Mr. H. Stanford London, F.S.A., has been a grievous loss to the Committee. Thanks to the increased amount of time devoted to the work by Mr. T. D. Tremlett, F.S.A., and several voluntary helpers, the editorial work on the *Dictionary of British Arms* has continued to make good progress.

Morris Fund.—The Society gave its support to the William Morris Society in its efforts to preserve the amenities of Kelmscott Manor, which had been threatened by the erection of an Air Force beacon.

Grants have been made for the repair of churches at: Duxford (Cambs.); Bedford, St. Mary's; Belchalwell, Hilton, and Winfrith Newburgh (Dorset); Jarrow (Co. Durham); Willingdale Spain (Essex); Bramley (Hants); Broughton Aluph (Kent); Rockingham (Leics.); Ancaster, Bardney, Gautby, Gedney, Greetwell, and Londonthorpe (Lincs.); Guestwick, Hunworth, Little Walsingham, and Stody (Norf.); Castor, Passenham, Thornhaugh, and Wittering (Northants.); Hexham Abbey (North'd); Brooke (Rutland); Barrington and Yeovilton (Som.); Penhurst (Sussex); Alton Priors (Wilts.); and Wentworth Woodhouse (Yorks.).

Library.—A gift was received from Mr. J. B. Ward Perkins, C.B.E., F.S.A., of about thirty Italian, French, and German publications on archaeology and architecture.

New shelving, measuring some 122 feet, was erected in a basement room, at a cost of £66, to accommodate periodicals and series which had outgrown the space previously allotted to them.

The representatives of the Church of Jesus Christ of Latter-Day Saints (Mormons) have completed their microfilming of manuscript genealogical material in the Society's Library. These comprise the relevant portions of the Wakeman Monmouthshire collection, the whole of the

extensive Prattinton Collections of Worcestershire History, and twelve other manuscripts. As a result, the Library will receive copies of this material, amounting to forty-seven (positive) microfilm rolls; as well as a microfilm of the Society's catalogue of manuscripts.

During the year, 35 books (apart from continuations) were bought, at a cost of £88, whereas 93 publications (value £208) were received for review. Some 1,085 books and periodicals were borrowed by Fellows, and 15 by the National Central Library. Three hundred and twenty-six lantern slides were borrowed. During the year, 275 volumes were sent out to be bound, while the bindings of some 250 volumes were repaired, or cleaned and renovated in the Library.

General.—The Society has won its appeal before the Special Commissioners of Income Tax in the matter of the refund of Income Tax on the subscriptions of Fellows who had entered into seven-year covenants. The Council wishes to record its gratitude to our Honorary Legal Adviser, Lord Nathan, F.S.A., and his staff for their devoted work in preparing the Society's case.

In response to the invitation issued in June, six Fellows entered into seven-year covenants for £50 gross per annum for the benefit of the General Fund, while several others covenanted for lesser amounts. The Royal Archaeological Institute, whose members have enjoyed the privilege of working in the Library since 1900, has made a donation of £100 per annum for three years for Library books, with the promise to review the position at the end of that period.

Approval has been given to the revised plan of the L.C.C. for the layout of Bunhill Fields Burial Ground, subject to the recording of all inscriptions on headstones in the area to be cleared. Evidence in support of the preservation of the church of St. Mary-at-Quay, Ipswich, and of other redundant churches, is to be laid before the Archbishop's Commission.

The following have been appointed to represent the Society: Professor W. F. Grimes on the Ancient Monuments Board; Professor I. A. Richmond and Professor J. M. C. Toynbee at the Third International Congress of Classical Studies; Mr. B. R. Hartley on the Organizing Committee of the Congress of Roman Frontier Studies; and Mr. G. H. Chettle as trustee of the Sir John Soane's Museum.

The following gifts, other than printed books, have been received from:

K. S. Jewson:

MS. of William Stukely: *Historia Coelestis*, or the History of the Heavens, being an explication of the Asterisms of the Celestial Sphere; whence the origin of Idolatry, and the first deviation from the Patriarchal and true Religion, 130 pp., illustrated, 1742.

R. J. Mainstone:

Notes on the rock-cut churches of Cappadocia.

Commander A. W. B. Messenger, F.S.A.:

The Heraldry of Canterbury Cathedral, vol. 2.

R. H. Pearson, F.S.A.:

Photostat of brass from Sturry, Kent.

Mrs. D. H. Woolner, F.S.A.:

Distribution map of the antiquities of Malta, with Introduction, description, and topographical index, compiled by D. and A. Woolner, 1957-8.

Anonymous:

Engraved map of Ancient Rome, Rome, 1805.

Obituary: The following Fellows have died since the last Anniversary:

Honorary Fellow

Dr. Paul Reinecke, 12th May 1958.

Ordinary Fellows

- William Henry Ansell, C.B.E., M.C., 11th February 1959.
 Albert Leslie Armstrong, M.C., M.A., M.Sc., 3rd December 1958.
 Herbert Ernest Balch, M.A., 27th May 1958.
 Gilbert Machell Bland, 19th July 1958.
 Charles, Viscount Bledisloe, P.C., G.C.M.G., K.B.E., 3rd July 1958.
 Captain Henry Theodore Augustus Bosanquet, C.V.O., R.N., 17th January 1959.
 William Llewellyn Brown, M.A., 14th November 1958.
 Albert Gerald Randle Buck, 14th July 1958.
 Sir Edmund Craster, M.A., D.Litt., 21st March 1959.
 Colonel Chichester de Windt Crookshank, D.L., J.P., 23rd October 1958.
 Henley Evans, 8th May 1958.
 Jesse Robert Garrood, M.D., 22nd April 1959.
 William Thomson Hill, 19th February 1959.
 Sir Eldred Hitchcock, C.B.E., 6th April 1959.
 Henry Robert Hodgkinson, February 1959.
 Robert Pickersgill Howgrave-Graham, 25th March 1959.
 Rev. Charles Lacy Hulbert-Powell, M.A., 11th March 1959.
 Rev. Canon Claude Jenkins, D.D., 17th January 1959.
 William Grant Keith, 1958.
 Athro Charles Knight, J.P., 10th May 1958.
 Hugh Stanford London, M.A., 20th January 1959.
 Prebendary Allan John Macdonald, D.D., 21st February 1959.
 Professor Leon Ary Mayer, O.B.E., Ph.D., 3rd November 1958.
 Bertram Wilson Pearce, M.B.E., M.A., 23rd March 1959.
 Ernest Alexander Rahles Rahbula, O.B.E., M.C., A.R.I.B.A., 2nd August 1958.
 Ernest Henry Rogers, 1st March 1959.
 Wilfred Sampson Samuel, 13 December 1958.
 Percy Alfred Scholes, M.A., D.Litt., D.Mus., 31st July 1958.
 Alic Halford Smith, C.B.E., M.A., 31st July 1958.
 John Stuart Syme, F.R.I.B.A., 12th December 1958.
 Robert Wemyss Symonds, F.R.I.B.A., September 1958.

HUGH STANFORD LONDON, Norfolk Herald Extraordinary, who died at Buxted, Sussex, on the 20th of January, was elected a Fellow in 1935, served on the Council in 1943 and 1944, and was on the Croft Lyons Committee from 1941 to his death.

He was known as a leading authority on heraldry, especially medieval heraldry, but his reputation in this field resembled that of the late Oswald Barron in that it rested more on unpublished work, known at first hand only to his friends and collaborators, than on the relatively small bulk of his publications.

The latter were indeed not negligible. They comprised two books, *The Queen's Beasts* and *Royal Beasts*, papers and notes in *Archaeologia* and the *Journal*, and many short contributions to other periodicals.

In comparison, however, with his work in connexion with the new edition of Papworth's *Ordinary of Arms*, all this can be called slight. Between 1940, when he first became associated with this work, and 1959 he constituted, from the original manuscripts indicated in our Fellow Mr. Wagner's catalogue, texts of about a hundred medieval and early Tudor rolls of arms, while he wrote with his own hand, from a great variety of sources, over ten thousand cards for the Papworth index. He compiled an armory and ordinary of heraldic badges and an index of

heraldic terms, especially as used in the medieval rolls of arms, and he worked out in the fullest detail the arrangement of the proposed ordinary.

The fruit of some of these great labours should in due course be published in independent form, but the greater part of them will be merged in the new Papworth, which must of its nature be a work of collaboration.

One of the most remarkable aspects of this great output of scholarly work is that it was not begun until London was approaching his sixtieth year and was near the point of retirement from his career in the Foreign Service. He was born in 1884, the son of Sir Stanford London, C.B.E., and was educated at King's School, Canterbury, Glasgow High School, Dulwich College, and Clare College, Cambridge. His interest in heraldry went back to his days at the King's School where the medieval heraldry of the cathedral cloister struck his imagination. He entered the Consular Service in 1908 and held appointments in Zanzibar, Algiers, Geneva, and Marseilles. In 1935 he became Minister Resident at Quito and was Consul General at New Orleans from 1937 to 1938 and at Paris from 1938 to 1940. He was one of the last Englishmen to leave Paris at the time of the fall of France, making his way to Bordeaux with his wife, driving his own car, and then in an overcrowded boat to Falmouth.

In Geneva he had become the friend of our Honorary Fellow the late D. L. Galbreath, under whose influence the scope both of his studies and of his excellent heraldic draughtsmanship had widened. At Galbreath's suggestion he began to make a special study of the lives of the English heralds. In this field as in others, the scope of his manuscript collections far exceeded the relatively small proportion brought to the stage of publication, whether in the form of an Appendix, contributed with our Fellow Mr. Wagner to the *Complete Peerage*, on 'Heralds of the Nobility', or the monograph articles on the lives of several individual heralds which he published in local and other periodicals. It is therefore satisfactory to know that summaries of all his lives of the heralds, completed by himself not very long before his death, will be included in the forthcoming monograph volume on the College of Arms building to be published by the London Survey Committee.

London's long residence abroad had given him little opportunity to become acquainted with the medieval and later manuscript sources which were basic to his studies, and it is not every student of such a subject who either could or would, at an age approaching sixty, devote himself successfully to mastering so considerable a range of difficult and largely unknown manuscript material. It was in his tireless and successful application to this task that London most truly showed the quality of his scholarship. He was constantly to be found in our own library, at the British Museum, or at the College of Arms, studying and transcribing such material, and his appointment in 1953 to the office of Norfolk Herald Extraordinary was a fitting recognition of what he had accomplished.

His readiness to introduce others to the special knowledge he had made his own and particularly to assist the stumbling footsteps of beginners was an especially attractive feature of a character which many friends and fellow workers remember with affection.

A. R. W.

The following were elected Officers and Members of Council for the ensuing year: Dr. Joan Evans, President; Mr. H. L. Bradfer-Lawrence, Treasurer; Professor I. A. Richmond, Director; Mr. A. R. Dufty, Secretary; Mr. F. T. Baker, Mrs. O. P. F. Brogan, Professor J. G. D. Clark, Miss B. de Cardi, Mr. F. G. Emmison, Mr. E. G. M. Fletcher, Mr. J. R. C. Hamilton, Mr. J. H. Harvey, Professor C. F. C. Hawkes, Dr. K. M. Kenyon, Mr. I. D. Margary, Dr. J. N. L. Myres, Lord Nathan, Lord Verulam, Mr. A. R. Wagner, Professor F. Wormald, Professor G. Zarnecki.

The President then delivered his Anniversary Address (pp. 163-9).

30th April 1959. It was announced that the President had appointed Professor J. G. D. Clark and Dr. J. N. L. Myres to be Vice-Presidents. Miss A. Scott Elliot, Mr. C. B. Jewson,

Sir Edward Muir, Rev. V. E. G. Kenna, Mrs. G. G. MacCurdy, Mr. D. M. M. Morrah, Professor H. Brieger, Mr. W. R. Powell, Mr. H. F. Trew, Mrs. A. K. B. Evans, Mrs. M. P. G. Draper, and Mr. R. B. Wood-Jones were elected Fellows.

7th May 1959. R. W. McDowall, F.S.A., and F. Atkinson: Halifax aisled halls.

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